Grass-roots and green-tape: community-based environmental management in Australia

Anna Jane Lennox Carr

A thesis submitted for the degree of Doctor of Philosophy of The Australian National University July 1994
Statement of originality

Except where otherwise noted, this thesis is entirely the result of my research.

Anna J.L. Carr
Acknowledgments

In addition to providing the material and intellectual space and resources in which to think and write, the staff and students at the Centre for Resource and Environmental Studies (CRES) have made the last three years an academic adventure. I owe much to my supervisory panel: Helen Ross, for academic enthusiasm and rigour, personal support and making the time to see me; Henry Nix, for kindness and generosity; John Handmer, for instruction in the art of pragmatism; and Steve Dovers, for always being available to discuss any detail. I have learnt much from their individual academic and personal experience. Valuable financial support was supplied by the Rural Industries Research and Development Corporation.

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Abstract

This thesis examines the role of community groups in environmental management. It is recognised that governments have a responsibility to intervene at the local scale to ensure sustainable management of the environment. Increasingly, there are also community groups wishing to manage local environments. This study argues that neither approach — top-down or bottom-up — is sufficient, but that they must combine to create middle-ground approaches which encourage a plurality of stakeholders to take environmental responsibility.

In Australia there is widespread agreement on the serious nature of environmental degradation. Rural Australia now comprehends the damage done to the land by erosion, vegetation decline, salinity and invasion by exotic species. Now that the effects of these problems on biophysical and socioeconomic systems are at least partially understood, people want action. This call for action has led to the formation of local community organisations to act on water quality, weed control, vertebrate pest management, dryland salinity, heritage conservation, forest protection and many other environmental issues.

Proponents of community-based environmental management believe that bottom-up approaches will change the face of Australian environments through participatory processes and bioregional principles. On the other hand, critics of this approach believe that community-based environmental management is a naive tool of the state. This study concludes that community-based environmental management can occur along any point of the community–government continuum and is presented as an heuristic model. While the extremes are useful, there is an emerging consensus that middle-ground approaches require cooperative environmental management.

Substantive findings of this research support both ends and the middle of the continuum. Principles underlying government involvement in community-based environmental management include a range of policy options, such as providing seeding finance or in kind resources; providing opportunities for group facilitation or
human resources; establishing the basis for local consultation and participation; furnishing advice and information; and establishing the political, regulatory and institutional arrangements within which local group action can flourish. Principles behind community-based environmental management include a strong sense of community; an attachment to place; extensive local knowledge; empowerment through building relationships within the locality; and the strengthening of extra-community relations with government agencies and resource management institutions.

This study uses a case-study approach to investigate three rural community groups — Water Watchers in Western Australia, the Downside Landcare Group in New South Wales and the Mitchell River Watershed Management Working Group in Queensland. The research is exploratory, collaborative, reflective, experiential and pragmatic. It borrows methodological procedures from a variety of research paradigms in order to establish the profile of community-based environmental management, the process by which it works and the principles underlying both group and government approaches to local environmental management. The three case studies reflect the diversity of community groups, but were not chosen using statistical sampling techniques. Rather, the research design was replicated in three case studies to make the findings generated more robust. The study uses grounded theory to explore the principles of community-based environmental management and links these with a range of disciplinary perspectives to generalise these findings in the literature, not to other populations of community groups.

Although the research is interdisciplinary, it is largely based in the social sciences and explores theory from community psychology, human ecology, rural sociology, adult education, cultural geography and environmental policy. It does not examine economic theory, but investigates emerging themes in the literature such as public participation, cooperative management and environmental stewardship. Community-based environmental management is complex, uncertain and turbulent — requiring an approach to the research which borrows from post-modernist thinking in recognising diversity and celebrating individual difference.
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<td>ACF</td>
<td>Australian Conservation Foundation</td>
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<tr>
<td>ANU</td>
<td>Australian National University</td>
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<tr>
<td>BoM</td>
<td>Bureau of Meteorology</td>
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<tr>
<td>CAFNEC</td>
<td>Cairns and Far North Environment Committee</td>
</tr>
<tr>
<td>CALM</td>
<td>Computer Aided Livestock Marketing</td>
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<tr>
<td>CaLM</td>
<td>Conservation and Land Management</td>
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<tr>
<td>CCC</td>
<td>Community Catchment Centre</td>
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<td>CFO</td>
<td>Commercial Fishermens’ Organisation</td>
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<tr>
<td>CRES</td>
<td>Centre for Resource and Environmental Studies</td>
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<tr>
<td>CSIRO</td>
<td>Commonwealth Scientific and Industrial Research Organisation</td>
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<tr>
<td>CYPLUS</td>
<td>Cape York Peninsula Land-Use Study</td>
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<td>DL</td>
<td>Downside Landcare group</td>
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<tr>
<td>ENGO</td>
<td>Environmental non-government organisation</td>
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<td>EPA</td>
<td>Environmental Protection Authority</td>
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<td>ESD</td>
<td>Ecologically Sustainable Development</td>
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<td>GA</td>
<td>Greening Australia</td>
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<td>GLADA</td>
<td>Gulf and Local Authorities Development Association</td>
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<td>ICM</td>
<td>Integrated Catchment Management</td>
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<tr>
<td>ILAP</td>
<td>Integrated Local Area Planning</td>
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<td>JSC</td>
<td>Junee Shire Council</td>
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<td>KALNRMO</td>
<td>Kowanyama Aboriginal Land and Natural Resources Management Office</td>
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<td>LCDC</td>
<td>Land Conservation District Committee</td>
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<td>MDBC</td>
<td>Murray-Darling Basin Commission</td>
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<tr>
<td>MR</td>
<td>Mitchell River group</td>
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<tr>
<td>MRWMWG</td>
<td>Mitchell River Watershed Management Working Group</td>
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<tr>
<td>NFF</td>
<td>National Farmers’ Federation</td>
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<tr>
<td>NLGERN</td>
<td>National Local Government Environmental Resource Network</td>
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<tr>
<td>NSW DoA</td>
<td>NSW Department of Agriculture</td>
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<tr>
<td>NSW DWR</td>
<td>NSW Department of Water Resources</td>
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<td>OWI</td>
<td>Office of Women’s Interests</td>
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<td>QDBIRD</td>
<td>QLD Department of Business, Industry and Regional Development</td>
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<td>QDEH</td>
<td>QLD Department of Environment and Heritage</td>
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<td>QDPI</td>
<td>QLD Department of Primary Industries</td>
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<tr>
<td>R&amp;D</td>
<td>Research and Development</td>
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<tr>
<td>RIRC</td>
<td>Rural Industries Research and Development Corporation</td>
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<tr>
<td>SJSC</td>
<td>Serpentine Jarrahdale Shire Council</td>
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<tr>
<td>TCM</td>
<td>Total Catchment Management</td>
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<td>VSB</td>
<td>Victorian Salinity Bureau</td>
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<tr>
<td>WADA</td>
<td>WA Department of Agriculture</td>
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<tr>
<td>WAWA</td>
<td>Water Authority of Western Australia</td>
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<tr>
<td>WW</td>
<td>Water Watchers group</td>
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<td>WWC</td>
<td>Water Ways Commission</td>
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Introduction
Photograph by: Dick Smith, Australian Geographic 26: 84
Dingo-proof fence, near Sturt National Park, NSW.
1.1 The rural crisis

Community groups are responding with determination and creativity to a rural crisis in Australia. The crisis is evident in the social, economic and ecological fabric of ‘the bush’ from Useless Loop in the west to Dingo in the east, Aurukun in the north to Buckleboo on the Eyre peninsula to the southern midlands in Tasmania. Ecologically, rural Australia is experiencing decreasing soil fertility, water quality and biological diversity, while at the same time experiencing increasing acidity, salinity and feral animal populations (Woods 1984; Chisholm and Dumsday 1987; Cocks 1992).

Economically, the latest Farm Survey figures show that average rural incomes have been consistently below zero since 1991-1992 (ABARE 1994). Farmers speak at conferences about not being able to replace shoes for their children (Alan Arbon pers comm Landholder, Australian Farm Management Society Conference, March 1994) and many have been forced to walk off their properties by banks in their haste to foreclose on loans (Lawrence 1987; Ronan and Cook 1994). ‘Low returns to producers, rising input costs, growing farm indebtedness, high interest levels and falling land values’ (Lawrence 1987:1) have all contributed to the current situation characterised by ‘the twilight world of grievances, grief, fear and fantastic solutions’ (Ronan and Cook 1994:1). Smaller communities which have traditionally been held together by the ‘pub’, the school, the church, a sports club and a shop are undergoing ‘structural adjustment’ of local economies, a euphemism in the bush for economic decline. Over many years the slow demise of many of these cornerstones of rural Australian society has seen social services relocated to bigger centres or abandoned completely. Coupled with the ease of access to urban centres, much of rural social life has been lost, leaving some farming communities socially isolated and peripheral to towns and ‘townies’.

In the past 25 years, technological, economic and social change has hastened the demise of these smaller communities. While in the post-war era ‘closer settlement’ policies were responsible for higher rural populations, now rural services have been recalled. Many schools have closed and pupils bussed to larger centres.
Agricultural extension officers can no longer afford the luxury of one-to-one consultations and have become confined to offices, becoming known to farmers as the ‘bloke on the other end of the phone’. A combination of farm amalgamation and technological change has transformed the farm sector and the rural landscape. Since 1951, the total number of agricultural establishments has dropped from 203,350 to 124,975 in 1991. During the same period, the total gross value of agricultural production has increased from $1,924m to $20,967m (ABARE 1993a). In the 1992–1993 financial year, average farm business profit for all broad acre farms was minus $17,540, with an estimated improvement to minus $6,000 in the 1993–1994 financial year (ABARE 1994). Through a combination of these factors, rural populations have slowly but surely become financially dependent on agribusiness (Davidson 1981; Lawrence 1987; Burch, Rickson and Annels 1992).

Socially, there is teenage suicide, alcohol abuse, domestic violence, unemployment, lack of access to adequate health and education, a language barrier, inequality in gender relations, a lack of child care facilities — all these factors contribute to the rural crisis or have come about as a result of economic and environmental factors (Alston 1991; Campbell and Fairweather 1991; McRobbie and Jupp 1992; Bishop, Pellegrini, Syme and Shepherdson 1993; Sjostedt 1993). In a submission to the South Australian Parliamentary Social Development Committee dated June 1994, it was noted that difficulties were incurred in providing basic necessities such as ‘a satisfactory level of clothing, household goods and adequate nutrition unless welfare benefits are being received’ (South Australian Country Womens’ Association 1994:2).

1.2 Enter the community group

The causes of these social, environmental and economic problems are complex and interrelated. One of the ‘solutions’ currently adopted is the widespread establishment of community groups. It seems there is a group for all occasions. Footrot groups have formed to control that disease in local areas. Computer aided livestock marketing (CALM) groups have formed to market their stock. Producer cooperatives are now a recognised entity in most rural communities, and it does not stop with economic incentives. Socially, rural communities have always enjoyed
their sports clubs. Hall committees are a feature of almost every small place privileged enough to own a community hall. Interestingly, progress associations seem to have given way to heritage committees — often with many of the same members. And now there is another incentive to form a group in rural Australia — the environmental imperative. Landcare groups, catchment management groups and water quality monitoring groups are proliferating all over the country. Tree-planting groups are no longer seen as ‘greenies’ turf’ and dune care groups are commonly valued as worthy enterprises. All of these are involved in ‘environmental stewardship’ (Lerner 1993).

Since 1990, numbers of landcare groups alone have grown steadily to over 2000 groups as of the end of May 1994 (Helen Alexander, National Landcare Facilitator, pers comm, May 1994). The percentage of farms where the operator or a family representative is a member of a landcare group is now 28 per cent of all broad-acre farms (Mues, Roper and Ockerby 1994) which indicates the growing interest in such groups and the success of environmental publicity campaigns. Consider, for example, the range of environmental interests illustrated in Box 1.1 by a handful of project titles chosen randomly from a list of community-based environmental organisations (Rose Read, Project Officer pers comm Murray-Darling Basin Commission 1991).

**Box 1.1: Diversity of environmental groups**

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<td>* Booligal Rookery Preservation Group</td>
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<td>* Water Watchers and Slugbusters</td>
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<td>* Downside Landcare Group</td>
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<td>* Captain Johnson Catchment Management Committee</td>
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<tr>
<th>Community Environmental Programs</th>
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<tr>
<td>* Black Swamp Enhanced Wetlands</td>
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<td>* Ford’s Bridge Woody Shrub Control</td>
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<td>* Homebush Rabbit Control</td>
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<td>* River Watch Community Awareness</td>
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<td>* Mallee Mayday Project</td>
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In the words of one landcare advocate:

The world is watching us, to see if our homegrown community-based model will work (Roberts 1992:5).

In the last five years, there has been an active shift on the part of governments to devolve responsibility to rural communities. Some argue that they are attempting to absolve themselves of these responsibilities (Lockie 1993; Vanclay 1994). Economic choice and attendant decisions have become the domain of the individual farmer or farmers' collective. For example, with the closure of the Australian Wheat Board, grain marketing has become the individual’s responsibility (even though this has not been the case with other agricultural commodities — notably wool). Government funded agricultural advice is now seen as too expensive to be delivered on a one to one basis. Now, agricultural bureaus (groups of farmers) receive more pre-packaged information at field days and seminars than ever before.

As the government has got out, community groups have filled the vacuum and now play a vital role in sustainable environmental management. Community-based environmental groups are flourishing as the bottom-up approach is recognised as a useful tool for working toward sustainability. They are becoming increasingly involved in environmental management and are more assertive in decisions about local environments (Duming 1989). For this reason they will no longer accept ‘holier than thou’ arguments from traditional authorities such as government departments. Community groups are also recognising that governments, at all levels, do not always know best, or even have a vision of sustainability. Caring for the Earth, the World Conservation Strategy released in 1991, identifies community-based environmental management as one of the key principles towards building a sustainable society (IUCN/UNEP/WWF 1991). However, with the meteoric rise in the rate of acceptance of ‘sustainable development’ (as a concept— if not a practice), increasing and perhaps undue pressure has been placed on community groups to assume responsibility for their local environments (Martin 1991).
Since 1991 in Australia, with less government funding available to groups and more groups becoming established, the private sector has become more involved in environmental management. For example, the Fertiliser Industry Federation of Australia has sponsored landcare through endorsements in the *Australian Journal of Soil and Water Conservation*. The National Farmers’ Federation (the peak industry body representing many farming businesses) are still heavily involved in the quest for sustainable agriculture in this country through the promotion of landcare and other community initiatives.

When equipped with skills, resources and opportunities from their own communities as well as external support, local groups are empowered to combat the rural crisis and change toward sustainable environmental management can occur (M’Gonigle 1986; Durning 1989; Gardner 1991; Fisher 1993). I argue that the process of community group action takes into consideration the importance of local people’s roles in attempting to slow the rate of environmental degradation by increasing the rate of change in local strategies for environmental problems. It also takes into consideration the relationship between knowledge, attitudes and behaviour in determining new goals for sustainable management of Australia’s natural resources. Community group process recognises the power of the culture in which it operates and incorporates local values, attitudes and world-views in designing action strategies. Community group process recognises the ‘doers’ of the action as integrally linked to the spatial and temporal context in which they act — thereby using local knowledge from farmers, teachers and the rest of the community to conduct strategic environmental planning.

**1.3 Focus of the research**

Despite the emergence of large numbers of community groups undertaking environmental action (Freudenberg and Steinsapir 1991; Carr in press), there are two fundamental gaps in the analysis of community involvement in environmental management in Australia. First, significantly more attention should be paid to the nature of the group process itself, how a group forms, what keeps it motivated, what features of group dynamics contribute to on-ground change and what hinders the
group process. Second, there should be more attention focused on community groups' relations with government. It is important to understand how these groups work in order to assist them. The point of contact with government thus needs to be explored in an effort to enhance the relationship between bottom-up and top-down management styles. In the face of so many groups starting up, all confronting large numbers and types of environmental management problems, and all involving a variety of stakeholders and types of resources, there exists a significant opportunity to make a contribution to policy development in this area.

Increasing levels of awareness of the importance of the environment within the broader society may be responsible for greater action in rural communities. More community participation in the environmental arena may also be due to a renewed sense of urgency in the need to act to protect our Australian environments, fragile and complex as they are. Perhaps community-based environmental groups are attracting membership with the growing value shift in modern society that mourns the loss of a sense of community with the push for rationality and efficiency. Community studies such as this seek to understand the bonds of social cohesion in the context of increased environmental uncertainty in post modern society (see Chapter 2). As we move toward the next century, Australian society will witness more forms of participatory democracy in environmental management. Hence this thesis may offer some insights into the paths we choose when encouraging community involvement in environmental management.

Is community involvement in environmental management being touted as the cure-all or panacea of sustainability at the expense of national environmental agendas? Is government really handing over resources to the local level, or is it abdicating its environmental responsibilities? What other forms of government support are needed to 'enable communities to care for their own environments' (IUCN/UNEP/WWF 1991:11)? These questions cannot be answered until the merits of community involvement are considered more critically by policy makers. Despite all the rhetoric about landcare and other environmental community-based organisations caring for the land and creating environmental awareness, what do governments really understand about group process? How do rural environmental groups work?
CHAPTER ONE — Introduction

What type of changes are they likely to make to the landscape and how will these impact on rural people? It seems that community-based environmental groups have become institutionalised without any apparent concern for the processes by which these groups arrive at management decisions.

Community-based environmental groups are deeply concerned to protect their local environments. But, as discussed further in Chapter 9, a key issue for this study is the extent to which these groups are captured by the state and used to implement sustainable development policies at minimal cost — under the banner of increasing community participation (Martin 1992). Alternatively, it could be argued that they are self-directing, autonomous organisations upon whom we must depend in the future if we really want to work toward sustainability (H. Alexander 1993). Closer attention must be paid to the principles and conditions under which groups can actively contribute to sustainable management of local environments.

This thesis argues that neither community groups nor government agencies can undertake sustainable environmental management alone. Both bottom-up (community) and top-down (government) approaches are necessary to work toward the middle ground and combine the resources, skills and knowledge of each so that opportunities for action can emerge.

1.3.1 Research questions, aims and methods

If community-based environmental groups are contributing to sustainable environmental management, it is important to understand what makes it possible for community groups to start and who belongs to such groups (a profile of group membership). Likewise, it is important to learn from the way members interact with each other (the process of community-based environmental management). The answers to these first questions may then assist policy-makers understand the underlying constructs of community groups and provide a means of analysing and improving community-based environmental management (the principles by which collective action takes place). The research questions for this study are:
What is the membership, dynamics and outcomes (profiles, processes and products) of community-based sustainable environmental management, and how do these interact with government?

What are the government policies and processes relevant to community-based environmental management, and how do these help or hinder the effectiveness of community groups?

What are the underlying principles necessary for successful community involvement in, and government support of, locally-based environmental management?

Since terms such as profile, process, principle and product are commonly used and have come to assume different meanings in different contexts — the definition of these constructs is important:

a profile establishes what kinds of things there are;

a process establishes how these things interact and how their make-up affects their behaviour and operation;

a principle establishes the characteristic functions of each such thing and its parts (Toulmin Rieke and Janik 1984)

a product describes the outcome of the things under analysis.

Given the depth and breadth of the research questions, it was important to make some early decisions about the level of analysis and to determine what was inside and outside the realm of concern for this study. I decided to limit this research to Australian rural-based environmental community groups. In 1991, when this study began, many such groups were just starting, and most of them were situated in rural areas. Recently, however, there has been more emphasis on urban groups. In line with standard comparative research design, urban groups were omitted from this study so as to optimise comparison among rural groups.
Box 1.2: Aims of research

This study examines community and government approaches to environmental management within a rural context in three case studies.

Primary aims

1. To understand the process and principles by which community groups work toward environmental management
2. To analyse the nature and role of government intervention in this process
3. To construct a model of interaction between the bottom-up (community) and the top-down (government)

Secondary aims

4. To illustrate the need for an interdisciplinary methodology in studying community-based environmental issues
5. To make the research methodology explicit through development of a philosophical framework for and methodological critique of the process
6. To contribute substantively to a theoretical discussion of the role of community-based environmental stewardship groups

These issues are explored in this study using qualitative, exploratory, and post-positivist research based on case-study methods. This research aimed to have a practical as well as theoretical orientation and significance; something that could be directly or indirectly useful to community groups and for government policy. For that reason, the study was not amenable to an impartial researcher conducting 'objective' research on people and places removed from my experience. Since I brought to this study a set of previously developed values, beliefs, attitudes and skills, it seemed important to augment these in order to produce some tangible and practical outcomes that 'would make a difference'. Instead of standing outside a community offering advice, as a rural person originally, I wanted to stand alongside
other rural people in their quest for sustainable management of local environments. The researcher's role developed for this study is explained further in Chapter 3.

This study was highly interactive, giving feedback to the community groups as the inquiry evolved, and receiving comments and requests from the case study groups on the basis of the research findings. The goal of making the research methodology explicit, although standard in most studies, is noteworthy because this study draws on a wide range of research methods from a range of paradigms. Therefore, the exposure of the way in which this study was conducted is more important here than in a study which is located within one discipline or research perspective. Another way in which I maintain the transparency of the research process when writing this dissertation, is to use the first person to provide ideas, interpretations, beliefs and assumptions about the topic at hand.

1.4 Case studies, issues and boundaries

The three case studies chosen for analysis reflect a combination of different environmental issues, places, people and management styles. Water Watchers was the first case study, comprised of a group of women in Serpentine Jarrahdale, Western Australia, who were monitoring water quality to determine phosphorus loading. The Downside Landcare Group in New South Wales was studied second. Members of that group were primarily concerned with dryland salinity in an agricultural area. Lastly, the Mitchell River Watershed Management Working Group in far north Queensland was concerned with the conflicting management interests and environmental problems of an entire catchment reaching over 75,000 square kilometres (see Box 1.3).

The problems are diverse. Some communities have many environmental concerns, others have fewer, but perhaps more serious ones. This is compounded by different subsections of the community viewing environmental degradation in different ways. Sometimes the community is unified (for example a community of primary school teachers or dairy farmers) and the problems are diverse or run 'off-site' across boundaries. Sometimes the problems are distinctive and localised, but the
**Box 1.3: Range of environmental problems**

<table>
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<th>Biophysical problems</th>
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<td>Weeds</td>
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<td>chiney apple</td>
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<tr>
<td>Mining</td>
<td>stream-bank erosion</td>
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<tr>
<td></td>
<td>environmental disturbance</td>
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<td></td>
<td>heavy metal leaching</td>
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<tr>
<td>Ecological</td>
<td>bushfires</td>
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<td></td>
<td>loss of species</td>
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<tr>
<td>Agricultural</td>
<td>salinity issues</td>
</tr>
<tr>
<td></td>
<td>water quality issues</td>
</tr>
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<td></td>
<td>fragile soils</td>
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</tbody>
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**Socio-economic and cultural problems**

| Economic             | over-grazing |
|                      | drought policies |
| Government           | lack of coordination |
|                      | conflicting policies |
|                      | lack of data |
|                      | lack of knowledge |
| Aboriginal           | poor communication |
|                      | lack of cultural respect |
|                      | lack of community awareness |
| Tourism              | over-fishing |
|                      | litter problem |
| Urban development    | Southedge site |
|                      | town sewerage |

Community is diverse and divided. Often an agent of change (for example a government project officer) is brought in to ‘fix’ something and is then criticised for bringing about changes (Ken McDougall, Salinity Project Officer, Victorian Department of Food and Agriculture, pers comm September 1991). New policies may be enacted which address current issues, but sometimes people are too afraid to implement them in case they are not appropriate in five years’ time. Fear, ignorance and uncertainty can definitely play a part in community-based environmental management. This is especially true when there are many different factions entrenched in decision-making ‘for the common good’, and that value-driven construct is far from being clear or easily agreed upon.
This study does not focus on the environment actions of individuals or go higher up the scale of analysis toward state, national or international planning levels. Although the importance of critical investigation of government agencies operating at the macro level is recognised, this study investigates local environmental management with an emphasis on each community group, rather than the government agencies associated with it. Whilst aware of the arguments for institutional reform on a broader scale, I am particularly concerned with documenting local people's actions. The reader could assume that because this study is about small-scale or community-based actions, I am conducting a purely psychological or sociological study. On the contrary, like the groups chosen for analysis, the boundaries of the study are not narrowly confined to political, ecological or psychological disciplines. The integrated nature of this research is a central component of the study and is described further in Chapter 2. Here it should be noted that the boundaries of each community group are themselves determined by a mixture of social, political and ecological considerations. The Water Watchers group uses local government administrative boundaries, the Downside Landcare group is based mostly upon social and catchment boundaries, and the Mitchell River group is defined solely by catchment boundaries. Incongruities between natural and human system boundaries are a deep-seated problem and present various methodological difficulties. In response to this, the current study has allowed each group's definition of space and their environmental concerns to indicate the scale at which data are considered relevant. The level of analysis for this research is presented in Figure 1.1, overleaf.

1.5 Assumptions and structure

This analysis is concerned with the relationship between citizens' groups and government agencies acting toward local environmental management and the implications of that union in terms of institutional pressure placed on groups to perform. It also explores the extent to which community groups are empowered to affect issues such as education and awareness about local environmental problems (see Chapter 7). Some of the underlying assumptions prevalent in academic circles at the time this research started were:
Figure 1.1: Level of analysis

Source: Adapted from Chamala and Mortiss 1990
that there is increasing community group action based upon widespread concern about environmental management issues in rural Australia (Roberts 1990; Campbell 1992);

that water quality monitoring, catchment management and landcare groups are good examples of the slogan 'community and government working together' in addressing environmental degradation issues (Martin and Tarr 1991); and

that both government (top-down) and community (bottom-up) organisations are concerned to prevent further environmental degradation out of a common interest in, and goal of, establishing sustainable land use patterns in Australia (Carr 1993c).

The structure of this dissertation reflects the chronological order in which I undertook the study. The literature review, although positioned in Chapter 2, was started first, but continued throughout the research. The literature I read at various stages throughout this study refined my ideas and theories constantly via a combination of attention to theory and praxis. Accordingly, the literature review reflects my starting points as well as refinements of what I learnt in the field and establishes how this study differs from others of its kind. Key elements and definitions of: community, environment, sustainable development, and sustainable environmental management are discussed. Chapter 2 also explains where this study fits among the array of disciplines that it traverses and attempts to integrate ideas and themes from a broad academic base. The approach taken in Chapter 2 was deliberately eclectic. Chapter 3 describes the methodology, the philosophy behind it and the rationale for the research design. I describe the case study approach taken and explain the development of the selection criteria for each case. Data collection and analysis are also described.

Chapters 4, 5 and 6 describe the profile, process and outcomes or products of the case study community groups as well as their interaction with government. Instead of documenting each case study separately within the body of this report (a task already completed for the benefit of each community group and published separately — Carr 1992a, 1993 b and d), the dissertation covers all three cases simultaneously. In this manner, cross-case comparisons are made which facilitate observations across
cases about motivations for joining groups, decision-making structures, conflict resolution techniques and other aspects of group operation.

Analysis and discussion begin in Chapter 7, with the principles and practice of sustainable environmental management in each community group. It draws upon a number of theoretical frameworks which offer insight into some aspect of group operation within an environmental context and synthesises the results of the study. Chapter 8 analyses government involvement in local environmental management and also draws upon theory when synthesising what has been learned thus far. Chapter 9 presents an overview of community–government interactions within an environmental arena. It illustrates the strengths and weaknesses of both bottom-up and top-down approaches and poses some alternative ‘middle-ground’ options for collaboration. It is not intended to be prescriptive. It is, however, intended to be used as a tool to describe and analyse community groups.

Chapter 10 concludes this study with a conceptual model of the principles underlying local environmental management and presents a postscript, a summary of findings and some personal reflections about the research process. It addresses each of the research aims, evaluates the extent to which these aims were met and comments on the outcomes of the thesis. Lastly, it revisits the case studies and comments on what has happened to each community group in the time between finishing fieldwork and writing this dissertation.
Towards an integrated approach
Photograph by: Anna Carr, Centre for Resource and Environmental Studies
Canola crop, top of the catchment looking down, Downside, NSW.
This chapter ‘sets the scene’ for the rest of this dissertation. It draws upon existing theories and literature within the broader context of community-based environmental management. In conducting the research, a wide range of ideas and theories have emerged from geography, psychology, sociology, anthropology and other disciplines. This review illustrates how my study fits within and extends these disciplines to encompass an integrated approach to the research topic. True to the principles of grounded theory (elaborated in Chapter 3), principles and processes of community-based environmental management arising from the research are discussed and analysed in detail in Chapters 7 and 8. This chapter merely prepares the reader for what comes ahead and introduces the basic elements of the study. There are five main topics for discussion. Section 2.1 sets the context of the thesis and examines the literature on sustainable development and environmental management. Section 2.2 starts with a definition of community, then explores the fields of community development and community involvement. Section 2.3 establishes what these groups are interested in — the environment — thus providing the back-drop for community group action. Section 2.4 argues that the thesis warrants an integrated approach, both because it is problem driven and because it is one which cannot be left to any single disciplinary or sectoral department. It also explores environmental complexity via an analysis of post-modernism. Lastly, I conclude that in order for any approach to bring together both the process-related and substantive aspects of sustainable development, environmental management and community participation, there has to be dialogue and exchange. This introduces the topic of cooperative management of natural resources, which is discussed in detail in Chapter 9.

2.1 Sustainable development

Sustainable development has become a global catchcry, at least since Our Common Future was released by the World Commission on Environment and Development (World Commission on Environment and Development 1987). Yet it has very little real meaning for the general Australian public. In 1990, at federal government level, ecologically sustainable development working groups were formed to investigate sustainability within the context of nine Australian primary and secondary industry sectors. There were many criticisms of the process, and although it was
seriously flawed in terms of its consultative practices (Paul Murfitt, RMIT student *pers comm* May 1994; Brown and Switzer 1991), many strategies and programs arising from it have been recently implemented, or existing programs subsumed into ESD, which have filtered through to communities from the top-down (Dovers in press; see also National Ecologically Sustainable Development Steering Committee 1994).

At the grassroots of society however, sustainable development has enjoyed a far longer history in Australia. Community groups such as the River Murray League have sprung up spontaneously to ‘do something’ about various environmental and other local issues since the 1890s (Powell 1993). Landholders in New South Wales in the early 1900s formed pasture protection boards to jointly undertake weed and rabbit control (Gammage 1994). Some groups are more successful and longer lasting than others, for example river improvement trusts were established in the 1940s and 50s and are still operating, albeit in different forms, up to the present. Many of the more recent of these groups have gone through a long, expensive and demanding community consultation process in the name of catchment planning and salt action strategies (Stone 1991). This all points to the current widespread practice of community groups forming to take matters into their own hands and ‘fix-up’ their environments.

In Australia there has been a trend toward handing responsibility for ecologically sustainable development (ESD) over to ‘the community’. Over the last five years there have been several attempts by state governments to involve communities in environmental projects such as Salt-Watch, Water-Watch and Landcare projects. This trend is evident in the draft reports of the ESD working groups. The first recommendation from the ESD Agriculture Working Group is:

> That governments support Landcare and similar community-based self-help vehicles as a principal means of facilitating transfer of information on ecologically sustainable agriculture and as an effective way of achieving collective action in the adoption of sustainable management practices (ESD Working Groups 1991:3).
The critical point to be made here is that there is a difference between governments abdicating their environmental responsibilities to communities by simple ‘transfer of technology’ communication models (cf. Rogers 1983) and communities who want to take local responsibility for their environments being supported by government. As one government officer in a recent workshop was heard to comment:

*It is all too easy to have an expectation that people in voluntary landcare groups will fulfil government objectives... but as I have travelled around in the last 4–5 years working with groups, I've noticed things [in groups] relating to burnout and to being swamped by too many objectives. [We should be] asking ‘how do you want us to listen to you?’ not ‘how are we going to tell you what we want to do?’* (Source withheld, Landcare evaluation workshop, February 1994).

Communities are not distinct from government; after all, governments are elected from members of the community. But political systems of democratic representation are not always as flexible and committed to specific sustainable development strategies as individuals and groups working ‘on the ground’. While it is vital that governments set policy directions in light of international trends and create visions for a sustainable future, there is a general perception that adequately resourced communities are able to implement ESD strategies more quickly and with more attention to the specific environmental problems of their area than are governments.

At an international level the second version of the World Conservation Strategy also acknowledges the role of participatory democracy at community level as one of six strategic directions toward sustainability (IUCN/UNEP/WWF 1991). At present, many governments are not proposing centrally-managed development programs, but sustainable management by local communities. Many of the state government responses to sustainable development have been phrased in terms of catchment management approaches, for example total catchment management (TCM) in New South Wales or integrated catchment management (ICM) in Western Australia. Before investigating sustainable management practices as they relate to community groups, it is important to define what is meant by sustainable development, ecologically sustainable development and sustainable environmental management.
CHAPTER TWO — Towards an integrated approach

2.1.1 Definitions

The term *sustainable* is commonly accepted if it is used to mean 'able to be sustained'. It is widely used in the context of the fast approaching twenty-first century. For example, the Sustainable Society Project at the University of Waterloo in Canada projected their vision into the year 2030. Nowadays people talk of *sustainability* as an entity unto itself. The Wilderness Society in Australia, defines sustainability as:

> The processes we use to set public policy about how we develop our world, the way we define our surroundings and our own activities to enable us to make political decisions about future directions (Jurd 1991).

While recognising the political nature of the term, this definition does not lead us to a deeper understanding of how sustainability is interpreted in rural Australia. From a more holistic perspective, *sustainability* must be seen as the goal of sustainable development, and is 'characterised by deepseated contradictions — paradoxes, conflicts, and tensions — between perhaps irreconcilable goals or directions' (Dovers and Handmer 1993:217). Development too, is not easily defined, often due to the level of confusion about what is to be developed and how. In the context of this study, a 'human centred' definition concerned with freedom, justice, dignity and ethical choice is preferred (Esteva 1987, 1992; Goulet 1990). In *Sustainable development: economics and environment in the third world*, the authors state:

> The use of the term 'development', rather than 'economic growth', implies acceptance of the limitations of the use of measures such as gross national product (GNP) to measure the well being of nations. Instead, development embraces wider concerns of the quality of life — educational attainment, nutritional status, access to basic freedoms and spiritual welfare (Pearce, Barbier and Markandya; 1990:1).

The most widely accepted definition of *sustainable development*, is: 'development which meets the needs of the present, without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development 1987:43). While some take this definition at face value, it is generally
recognised that sustainable development ‘is more than a pious hope, but rather less than a rigorous analytical schema’ (Redclift 1987:199). The unavoidable conclusion reached by many is that because development is value laden and sustainability is time dependent, sustainable development is at one and the same time ‘ethically and practically determined’ (Pearce et al 1990:3). To make it more rigorous, sustainable development must not be seen simply as an end unto itself (product) or even as a means (process) to an end, but as a tool for bringing about change. It may also increase the ability of a system to adapt to ecological imperatives. Several Canadian authors have recognised this distinction between process-oriented and substantive elements of sustainable development. Julia Gardner makes this distinction between principles which relate to the means of decision-making and principles which relate to the fundamental goals of these decisions (Gardner 1989). Process-oriented principles of sustainability include:

♦ goal seeking or strategic approaches ‘beyond reaction, anticipation and set procedures to be value-oriented, innovative and alternative generating’ (Gardner 1989:343);

♦ relational or systems-oriented approaches which recognise the interconnectedness of nature–culture, socio-economic and biophysical systems among other dichotomies;

♦ adaptive approaches which include attending to risk management, monitoring and self-regulation; and

♦ interactive approaches which recognise and encourage participative democracy, transdisciplinarity and integration.

Substantive principles of sustainable development include:

♦ satisfying basic human needs;

♦ preserving ecological integrity through attention to biological diversity, maintaining ecological processes and ensuring sustainable use of ecosystems and species;

♦ achieving equity and attending to social justice issues; and

♦ preserving cultural diversity and social self-determination (Gardner 1989).
The Sustainable Society Project at the University of Waterloo has been developing principles and values for sustainability since the mid 1980s (Robinson, Francis, Legge and Lerner 1990; Robinson, Francis and Lerner 1990; Lerner 1991a; Slocombe and Van Bers 1991). The starting point for that project was to imagine the year 2031 and look back to the present in order to ‘design the way forward’. Project members recognised that sustainability was a normative principle involving ethical decisions:

Sustainability is defined as the persistence over an apparently indefinite future of certain necessary and desired characteristics of the socio-political system and its natural environment (Robinson et al 1990:39).

Simply through use of the term *ecologically sustainable development*, Australians have recognised and attempted to account for this extremely important element of sustainability. But have policy-makers used ‘ecological’ at the expense of the cultural and economic versions implicit in the more general term *sustainable development*? Barbier (1987) recognises that social system goals including cultural diversity, institutional sustainability, social justice and participation are important factors which contribute towards sustainability. But often these less tangible variables are left out of more traditional definitions. *The National strategy for ecologically sustainable development* contains the following definition:

using, conserving, and enhancing the community’s resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased (Commonwealth of Australia 1992a:6).

But perhaps a more apt description of this nebulous ideal is that used by the New Zealand Government. It recognises the limitations inherent in the term *development* (discussed further in Section 2.2.1 of this chapter) and opts for using *sustainable management* instead.
‘Sustainable management’ means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well being and for their health and safety while:

(a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonable foreseeable needs of future generations; and
(b) Safeguarding the life-supporting capacity of air, water, soil and ecosystems; and
(c) Avoiding, remedying or mitigating any adverse effects of activities on the environment (New Zealand Government 1991).

However, the terms managing and management are themselves questionable when considering the literature on organisational behaviour and administration (Smith 1989). Management implies steering, planning, goal setting, organising people and strategic thinking — usually an institutional structure. As one recent author has noted: ‘management is about getting things done through and by people... people are not cogs in a machine, they all have their own personal objectives and desires, and the extent to which any manager can control their detailed activities is in practice limited’ (P. Smith 1989:2). In a recent publication entitled Managing sustainable development, Carley and Christie concur with this view. They note that the old style management — what they label ‘command and control’ is no longer adequate for the complex task of steering western societies toward sustainability, without even considering the needs of non-western nations. The alternative, they claim, is ‘looser, task-oriented management structures’ which can be best provided by ‘small-scale administrative cadres’ and, ‘multidisciplinary project teams’ (Carley and Christie 1992:154).

In summary, four things are clear from even a cursory analysis of sustainable management practices, both locally and at national and global levels:

♦ A change in environmental perceptions and action is vital, as ‘the time has come to break out of past patterns...Security must be sought through change’ (World Commission on Environment and Development 1987:22).
People are involved in making those changes come about, not simply through governmental approaches, business approaches or any one single approach, but through an integrated or partnership approach to ESD recognising the role played by community groups and voluntary organisations (Brokensha and Riley 1989).

Institutional structures that meet the needs of the landholders and the wider needs of society are being based in the community where local knowledge and local history can play an important part in decision-making. However, it is important to recognise that neither top-down nor bottom-up approaches will work in isolation, multilateral attempts must be made in an effort to provide a combination of initiatives (Durning 1989).

Many of the current problems derive from a lack of basic understanding of the environmental resource issues involved. Therefore holistic approaches are necessary which start with the problem as perceived by those experiencing it. Moreover, education about sustainable management practices is essential, not simply from one disciplinary framework, but across disciplines to promote intersectoral cooperation.

The concept of environmental stewardship embodies many of these themes of community-based environmental management. It is most applicable to the case study groups in this analysis. Therefore, it is important to understand the philosophy and practice of environmental stewardship before continuing with a review of community.

2.1.2 Stewardship

The stewardship approach to environmental management recognises that humanity is but one element of a complex web in ecology — not centre stage. Sally Lerner in her recent book *Environmental stewardship: studies in active earthkeeping* draws attention to the root of the word. She recognises that although stewardship has also been put on trial for anthropomorphism, it is closer to defining the environmental practice of many local groups than environmental management will ever be:
a steward is conventionally defined as one who manages the affairs of a household or estate on behalf of an employer. But good stewardship also implies caring for, maintaining wellbeing, being vigilant, accepting responsibility, [and] understanding the importance of accountability (Lemer 1993:4).

Stewardship also implies a different kind of relationship with the earth, one that is based on respect for nature, and a current and ongoing commitment to ‘active earthkeeping’ (Leopold 1949; Roberts 1990; Lerner 1993). Stewardship activity is of critical importance in the strive toward sustainability. If it weren’t for ‘thousands of volunteer hours logged in monitoring, rehabilitation, research, brief preparation, fundraising and myriad other activities’ (Lerner 1993:5), much would be lost in the cause to address environmental problems. In terms of involvement in environmental non-governmental organisations, stewardship activity leads to greater awareness of environmental problems out of a process of rapid social learning and increased community cohesion (Gardner 1991a; D. Alexander 1993; Carr 1993a). However, as noted in Lerner’s recent book on environmental stewardship groups, there is clearly insufficient research in this field. Although stewardship groups are growing in number and in activity, there is very little documented about their membership, strategies, approaches, interactions with government, group process or efficiency (Lerner 1993; Ordubegian 1993).

This research attempts to partially fill that gap by illuminating the principles by which three community-based stewardship groups went about conducting context specific environmental management. However, despite the rise in environmental and post-materialist goals (Inglehart 1990) which gives voice to those who would prefer to speak about environmental stewardship rather than environmental management, the latter term is used in this thesis as a broader allusion to the ideals of environmental stewardship. Given that community-based environmental stewardship groups face a wide variety of tasks, they must also have a solid concept or sense of community. A discussion of community forms the second section in this review.
2.2 **Community**

*Community* is one of those useful all-purpose terms which, like brand names of common household items, have become ingrained in common parlance. Historically it has been defined in multiple ways. According to research completed in the mid 1950s, the term *community* has been defined in no less than 94 different research settings (Hillery 1955). However, clearly unlike biro or hoover, *community* has no fixed meaning, but many 'desirable' characteristics: non-violence, direct democracy, self-reliance, local culture, appropriate technology and equality (Naess 1989).

Definitions of community are commonly based on place-centred or people-centred ideas. Perhaps the easiest to visualise is the notion of community as a geographic place; for example Wagga Wagga, New South Wales. Yet human ecologists also talk of community as a spatial unit, 'a whole which is something different from the sum of its parts, possessing powers and potentialities not present in any of its components' (Hawley 1950 cited in Bell and Newby 1971:33). Community defined in terms of people is usually thought of with reference to like groups, for example the Christian community or the international community of physicians. It may also be thought of as the people who both live or work in a specific place and share common ideals such as some religious communities. One of the more common ways in which community is defined connotes the feeling of connectedness which unites people in a common cause, or common geographical area:

"Community", as distinguished from "the community", emphasizes the common-ties and social-interaction components of the definition. In this sense community is viewed by some sociologists as "the most fundamental and far-reaching of sociology's unit ideas". It is characterised not so much by locale as by "a high degree of personal intimacy, emotional depth, moral commitment, social cohesion, and continuity in time" (Nisbet 1967:47 cited in Bernard 1973:4).

Tinder (1980) picks up the moralistic overtone and enlarges upon it. ‘Sometimes it merely denotes a town or a city and has no moral connotations. Here, however, we are concerned with an ideal — one of perfect unity, such as that represented in the writings of Plato and Jean Jacques Rousseau... Community arises when persons
together realise their essential being’ (Tinder 1980:1 and 36). Yet that ‘perfect unity’ is surely no more than an idealistic pipedream when one considers the underlying ambiguities and conflicts present in the everyday use of the term.

A key point within the context of the community groups studied in this research is that one person may belong to many communities simultaneously, which serves to increase the underlying complexities of this concept. Ambiguities and nuances of interpretation raised, for example, by someone who is gay, shoots ducks and is a member of the clergy in ‘the rural community’ are especially important to make explicit. When concepts of community are not adequately defined and they subsequently become administrative units in the eyes of government, there is more confusion. For, ‘the community is a perennial referent in the rhetoric of politicians, administrators and sociologists’ (Suttles 1972:257). Some of this confusion arising over use of the term ‘community’ is clearly illustrated with reference to the Murray-Darling Basin Commission’s Natural Resource Management Strategy in Australia (Condon 1991). The Strategy officially recognises ‘communities of common concern’ as legitimate local groups working toward sustainability. However, one official at the Commission made a categorical mistake when assuming that community and community group simultaneously represent both a social organisation and the whole locality. As one irate member of a salt-action group wrote:

We are heavily involved in Landcare and similar rosy-glow movements in creating Community awareness — but let’s really let the Community know that it has been riding very heavily on the farmer’s back over the last 30 years (Condon 1991:3).

Obviously some people believe that if there is a community, then it is somewhere ‘out there’, having little to do with the daily reality of farming life, for example. This calls into question whether Condon would have considered himself part of society in general, and what does that mean anyway? Is community part of society or are they separate entities? I believe that community is now being used by government in the 1990s in much the same way as society was in the 1940s to mean non-governmental ‘support systems for individuals’ (Newborough 1992:12). Has
modernity put paid to the age-old distinctions between *gemeinschaft* and *gesellschaft*? The answer to that question lies in the extent to which principles of equality, humanity and liberty can fit within a community development theory which celebrates person in community (Newborough 1992).

The concept of what characterises community is a value laden one since it is determined both culturally and socially and depends as much upon what proponents of the concept think it should be as upon what observers think it is. Because it evokes such a 'warm and fuzzy' feeling among community developers, planners and their colleagues, Smith argues, in relation to Aboriginal policy, that community work is being heralded as the ‘effective, democratic, participatory model of service and policy development’ (B. Smith 1989:15). Since the historic coalition in Australia between the National Farmers Federation (NFF) and the Australian Conservation Foundation (ACF), on land degradation issues, landcare has been similarly championed as the ultimate model of community cohesion and environmental management. Some analysts, however, are choosing not to ignore the historical conflicts of these national groups and are exposing the facade of these ‘community’ groups which are merely interested in capitalising on the availability of additional government funding for local community projects (Lockie 1993; Vanclay 1994).

Given the level of confusion and mistrust over the use of terms like sense of community, community participation and community involvement, it is timely to introduce the dark side of community. Contrary to the perception of ‘sense of community’ as ‘maudlin togetherness, a tear-soaked emotional drippiness that misguided do-gooders seek to experience’ (Sarason 1974:157), there is also evidence that a highly developed sense of community may give rise to exclusion, elitism, polarisation and even cliques and cults. As community psychologists have noted, ‘this force does not operate just for good’ (McMillan and Chavis 1986:20). They refer to recent gains in popularity for national groups such as the Klu Klux Klan and even local urban vigilantes. In Australia, the mild mannered Ladies in League Against Communism (LILAC), or the development-oriented Forest Protection Society bear witness to the diversity of goals, but uniformity of cohesion among
community groups. I am not suggesting that these groups are ‘bad’ or in some way neglectful of the public good — merely that in tightly cohesive community groups, i) there may be an element of exclusionary behaviour, and ii) not all community groups are the bastions of ‘warm fuzzies’ protecting the environmental commons as so often portrayed in the media.

Martindale speaks of community in functional terms. He says ‘systems of social behaviour sufficiently comprehensive to carry a given plurality of persons through a normal year and a normal lifetime of any given member become a community’ (Martindale 1976:xii). In an earlier publication, Martindale was concerned with the concept of community in terms of solving environmental and social problems. (Martindale 1964). More recent sociological theory has veered away from reflecting community as a response to these problems. Post-modern society reflects community as evolving and adapting, not as a static entity or one that can afford to ignore the conflicts and divisions within it. These conflicts and the process of their negotiation inevitably lead to change. Competing interests reflect diversity within community, which in turn lead to alternative forms of development, a healthy sign according to the human ecologists (Korten 1990).

The return of community has been interpreted by some in the social sciences as a return to simplicity, romanticism, traditional values, local knowledge and populist agendas (Davidson 1993). Some even go so far as to wish a return to the past: ‘forgetting the repressiveness, narrowness, parochialism, and real difficulty of life in earlier times, such simple nostalgia offers an attractive alternative to anxiety about the complicated present’ (Leinberger and Tucker 1992:87). Community as used in this study does not naively refer to an emancipated, historical rural or village lifestyle freed from the harshness of the landscape. Nor does it refer to a static, geographical feature of the countryside. It is, however, time-dependent and will exist only for as long as the principles which led to its formation, maintenance and survival, are present. A sense of community will not spontaneously erupt or exist independently of the set of conditions which herald this nebulous concept (discussed further in Chapter 7). In the post modern culture which drives us steadily toward
the twenty-first century, community is not likely to be a simple, unified, cohesive subject — if it ever has been.

In a society that is growing more multi-ethnic and more multicultural with each passing day, the question is increasingly: Whose memory, whose community? The belief that we can and should simply select the best ideas from ‘our’ tradition seems unlikely when it is no longer clear what that unifying culture is (Leinberger and Tucker 1992:88).

In any interpretation, what is common in community is dependent upon the context in which the term is being used. In other words, the term is a normative one and, as stated at the outset, its definition is reliant on the context in which it appears. There are three such contexts requiring further introduction here — community development, community involvement and sense of community. It is important to understand the history and principles of literature on a sense of community and of community development practice before turning attention to the more widespread and current phenomena of community involvement and public participation.

2.2.1 Sense of community

Community studies have abounded in sociology and geography for many years. But, the concept of a sense of community was initiated by psychologists who saw the need to go beyond the study of individuals only, to study groups and communities undergoing structural and societal changes (Sarason 1974; Levine and Perkins 1987; Heller 1989). Community psychology has been recognised as a legitimate field of inquiry since the 1960s, but most studies of sense of community have taken place within an urban context and have concentrated on poor or disadvantaged residents. Much of the community psychology literature has focussed on studies of social problems rather than the environmental and economic concerns which are raised in this study. The concept of sense of community is nevertheless useful and directly relevant to this study in the way that rural-based community groups such as Water Watchers, Downside Landcare group and the Mitchell River Watershed group relate to each other and their environment.
Solidarity based upon kinship and territorial ties with the environment is one of Talcott Parson’s basic notions of a *sense of community* (Bell and Newby 1971). It is frequently argued that a sense of belonging, membership or identity within community is also of paramount importance to the concept of *sense of community*. Social influence in terms of the individual–group relationship is also important, as is a sense of shared emotional connection (McMillan and Chavis 1986). Thus, while on the one hand it seems that *sense of community* is another catch-all phrase that has been used to describe many of the above principles in the psychological literature, on the other hand, these principles, when examined individually, serve to shed more light on the way that *sense of community* is cultivated in community groups and acts as a precondition for local environmental management. Consider one of the older definitions of *sense of community*:

The perception of similarity to others, an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them, the feeling that one is part of a larger dependable and stable structure — these are some of the ingredients of the psychological sense of community (Sarason 1974:157).

The study of *sense of community* is important because some authors claim that it is the principle which contributes most to concerted, participative action by local community groups (Heller 1990; Grierson 1993). Therefore, it is vital to understand the theoretical and applied elements of this psychological construct which has been identified by interviewees in each of the three community groups studied. McMillan and Chavis (1986) have identified a theory and definition of *sense of community* which entails four distinct criteria: membership, influence, emotional connection and reinforcement of needs. These form the basis of discussion for Chapter 7.

### 2.2.2 Community development

Community development has its roots in rural development theory arising from agricultural extension practice both in first and third world nations (Phifer, List and Faulkner 1989; Korten 1990). However, it also has a strong history in the fields of community health, social welfare, adult education and community psychology
CHAPTER TWO — Towards an integrated approach

(Phifer et al 1989; Heller 1989; Ward 1994). Common among these seemingly disparate disciplines: 'community development as a profession emerged from the difficult transition experience of millions of individuals and from the inadequacy of existing institutions to cope with the problems of the times' (Blakely 1989:307).

From an analysis of the literature, a set of common themes of community development practice can be identified:

- Empowerment (self-help)
- Participation and involvement
- Social learning
- Mobilisation of resources
- Technical assistance
- Needs assessment
- Social justice

From: (Blakely 1989; Christenson 1989; Christenson and Robinson 1989; Korten 1990).

Many of the goals of community development projects include some form of social change, whether they be focused on economic development (Wismer and Pell 1981); rural and agricultural development (Korten 1980) or health and education (Ward 1994). Chin and Benne (1976) categorise three types of social change strategies with community development practice:

The first type is the empirical-rational strategy in which change agents are concerned with providing the person, group, or community with sufficient information so that a proposed change can be rationally justified...

The second type of strategy is called normative-re-educative. According to this view, change occurs when people alter their basic norms. Change is effected by interventionary methods that seek to alter the very habits, values, and attitudes of individuals and communities...

The third type of strategy deals with the application of power. The power-coercive strategy focuses on the ability of one person or group to influence another. In the community
context, we are generally concerned with the exercise of power over group decisions (Warner 1989:119).

With reference to the three community groups under analysis, I am concerned in the citation above, with the agency implied by the use of the pronoun ‘we’. A key issue raised in much of the literature on community development is ‘development for whom? development of what?’ There is a crucial distinction between development of the community compared to development in the community (Summers 1986; Blakely 1989; Wilkinson 1989). Like the literature on sustainable development, community development literature has raised the issue of whether it is a process, a program, a method or a movement (Sanders 1958 in Christenson 1989). Indeed, the whole notion of development, whether it is about sustainability in environmental terms, security in terms of local economies, or human health and wellbeing in terms of local communities, is taking a battering:

the more varied and contradictory the definitions of development become, the stronger its connotation.
Development implies that one has started on a road that others know better, to be on one’s way towards a goal that others have reached; to race up a one way street. Development means the sacrifice of environment, solidarities, traditional interpretations, and customs in the name of everchanging expert advice (Esteva 1987:144).

Rather than debate the relative advantages and disadvantages of community development any further here, some of its themes (empowerment, resourcing, technical advice and social learning) are discussed in more detail in the case study analysis in Chapters 7 and 8. Instead, given the rise in numbers of community groups undertaking stewardship activity (Carr 1992b) and the swelling population of people becoming involved in community-based environmental management (Freudenberg and Steinsapir 1991), it is timely to examine the literature on community involvement.
2.2.3 Community involvement

The terms public participation, citizen involvement and community consultation are frequently mentioned in government reports and consultancy documents as examples of the increasingly common practice of community involvement: ‘each involving slightly different starting points and outcomes’ (Dugdale 1989:6). In her well-known ‘ladder’ of citizen participation, Arnstein (1969) measures community involvement along a continuum between persuasion at one extreme, and self-determination at the other. The former falls largely within the realm of government initiated activities, while the latter principle is often owned and initiated by the community. According to Ghai and Vivian (1992), literature about community involvement in environmental management has been more recently concerned with the effects of low involvement as an obstacle to grassroots action than it has been with championing the successes of voluntary participation in community-based environmental management. These authors go on to state that local, voluntary involvement in this field has been neglected at the expense of ‘ways in which local people can be persuaded to provide the necessary labour input into environmental management projects designed outside the community’ (Ghai and Vivian 1992:3). This was the unfortunate conclusion reached by several government officers interviewed during the course of this study (see Chapter 8), but it was not the majority of opinion.

Other factors more conducive to effective government—community relations about local environmental management have been determined by the Institute for Participatory Planning. They are reproduced in whole as they appear in Syme (1992):

(a) The process of public participation should be agreed between the agency and participants.
(b) Public participation should start early in the decision-making process.
(c) The objectives of the public participation need to be clearly stated.
(d) People need to be aware of the level of power being offered.
(e) Efforts should be made by the agency to identify all interested parties.
(f) Information should be freely available to all participants.

(g) Participants should know how their submissions will be processed.

(h) Where appropriate (e.g. for travel and large time commitments) costs for participants should be reimbursed (Syme 1992:79).

On the basis of research into community based planning in salt-affected areas of Victoria, Wilkinson and Barr (1993) add a timely reminder that commitment to the process of involvement should not overshadow commitment to the task at hand. Syme concurs, noting that many such lists have taken on levels of theoretical importance far in advance of any practical application. This raises the issue of whether public involvement is a means or an end toward environmental management, for:

> at present, participation is often seen as a means to a more effective or efficient realisation of the objectives of sustainable management of resources. In this case the focus is on the results of participation. When participation is seen as an end, major importance is given to the process of participation itself (Drijver 1992:133).

More than just identifying those interested parties who may wish to be involved, De Groot (1989 cited in Drijver 1992) comments on the diversity and extent of people’s participation. A broad ‘social reach’ of participation is based on many different sectors of the community becoming involved in direct and meaningful ways. De Groot goes on to comment about the phases of involvement — the timing of involvement is crucial and is especially relevant to this study. Good timing of community involvement can locate a public participation strategy firmly at the empowerment end of Arnstein’s continuum. When public involvement is encouraged at the conceptual design stage of a community project, the outcomes are quite different to that kind of public involvement which allows community groups to make objections to a project at the end of the design phase. De Groot also mentions that the quality of participation relates to the overall effectiveness of any community involvement strategy. If the community has been encouraged to participate early and in each phase of development — but has been restricted to superficial kinds of
involvement, the effectiveness of this kind of 'involvement' is likely to be of poor quality. The superficiality of the kind of public involvement strategy which requires only labour and information from the community is obvious; it does not really involve the public.

In much of the literature on participation or involvement, the question of why and how people participate is glossed over, but: 'it is important to know why people participate and why they support, adjust or resist the project' (Drijver 1992:134). Academics in the field of community psychology have been able to shed light on this. Prestby, Wandersman, Florin, Rich and Chavis (1990) have linked participation in community organisations with individual and group empowerment associated with the attainment of skills, knowledge, competence, efficacy and with resources mobilisation. Social/communal empowerment benefits include tangible material rewards, solidarity with the group and a sense of responsibility to the community (Prestby et al 1990). These authors also link the costs of participation such as lack of time and family commitments with less involvement in community organisations. Their research on participation in neighbourhood block associations has direct relevance to this study of community involvement in environmental management despite the difference in environmental context. But without a more detailed understanding of environment, the setting of this community action would be lost.

2.3 Environment

'Literally, an environment is that which surrounds, and therefore — at the very least — it presupposes something to be surrounded' (Ingold 1992:40). Another common definition of environment is that provided by the ecologists: environment is 'the sum total of all the external conditions which may influence organisms' (Hanson 1962:126). Many environmental psychologists would add that this includes built humanised landscapes as well as 'natural' landscapes and ecosystems. Whatever the definition, environment is important here in the sense that in each interview what was perceived as being problematic or important features of local environments provided the context in which discussion of community-based environmental
management took place. For example, grasshoppers were perceived as being a distinct environmental problem for several government interviewees in the Water Watchers case study, because they caused premature tree-deaths. In other case studies dryland salinity or fish-kills were said to be more serious problems. Obviously the environment and its problems are construed differently by different people and gain significance in the eye of the beholder.

The environment is not a blank slate 'already constituted and ordered beforehand' (Vattimo 1992:12) upon which we humans impose our collective cultural wills. Nor is it something that we can only perceive through the eyes of our culture. Instead, the environment is both 'naturally' and culturally constructed, through 'a dynamic mix of symbols, beliefs, languages and practices' (Anderson and Gale 1992:3). It is not a fixed thing waiting to be discovered for its 'affordance' or 'use-value', rather, human interaction with the environment is critical because 'acting in the world is the practitioners way of knowing it' (Ingold 1992:53). Nature and culture, people and the environment are not at different ends of yet another dichotomy, but are mutually defining and 'constitutive components of the same world' (Ingold 1992:51). The environment is larger and more comprehensive than a simple compilation of natural resources, human populations and architectural landscapes. Therefore, it is appropriate that this research focuses on community-based environmental management — not natural resource management.

2.3.1 Environment as agent

So far the environment has been described as a passive object. But if this research is conducted in order to open up options for the creation of alternative and sustainable futures, I should speak of the two way flow between humans and the environment — allowing the environment to take the position of active agent, not merely passive object. Re-interpreters of the Gaia theory, deep ecologists and some ecofeminists revel in these interpretations:

Ecofeminists have been perhaps the most insistent on some version of the world as active subject, not as a resource to be mapped and appropriated in bourgeois, Marxist, or masculinist projects. Acknowledging the agency of the world
in knowledge makes room for some unsettling possibilities, including a sense of the world's independent sense of humour (Haraway 1988:593).

While not going to that albeit interesting extreme, environmental agency has long been considered by deterministic geographers and environmental psychologists. Humans do not merely act upon the environment, the environment acts upon and shapes human perceptions. Environmental psychologists concerned with human-environment relationships and the effects of 'the city as an unnatural habitat' in the early 70s (Ittelson, Proshansky, Rivlin and Winkel 1974), now emphasise the stress and risk associated with potential environmental threats (Evans and Cohen 1987; Graumann and Kruse 1990). Recent work in the field of cultural geography (see various contributors in Anderson and Gale 1992) recognises the effects of some environments' characteristics upon the inhabitants of these environments — over time and as publicly recognised through metaphor and symbol. For example, how do qualities such as dryness, heat, redness and expanse shape the experience of the Mitchell River groups' management of that catchment? How much of its environment is defined in common ideological terms among members of the Cape York community? These introduce more theoretical questions in the field of environmental psychology such as how peoples' perceptions of the environment affect their actions and the nature of the 'fit' between perception and action. However, these are beyond the scope of this study. Instead the concept of environment as metaphor goes a long way toward informing the ways in which Australians have historically constructed their environments.

2.3.2 Environment as metaphor

The countryside is an important concept in English rural localities, signifying all that we associate with that peaceful, tranquil locus of production. Indeed, as Short (1993) points out, its import is even more worthy of attention when attached to the concepts of nation and nationality. For nowhere has 'the bush' come to be more identified with the nation than in the countryside of Australia. The decision to investigate rural environments and community groups rather than urban ones was influenced by the perception that they lie somewhere in between environment as
wilderness and environment as urban form. As noted above, there is widespread recognition that the environment is not just comprised of the natural, wilderness, tropical or coastal scenes most often associated with Australian environmental groups. The environment of cityscapes, architecture, urban parks, shopping malls, heritage buildings and other built forms could also form the content of a study into how community groups look after their surroundings. However, rural community groups provide an excellent opportunity to understand how people have historically constructed their environments as metaphors.

The environment as metaphor is a rich source of inspiration with which to look through new eyes at Water Watchers, Downside Landcare and the Mitchell River group. Common to the work of some landscape ecologists and geographers writing from the 1930s through to the 70s was the belief that the landscape, like the environment, is recognised as an important but fundamentally ambiguous term which may be 'read' in a variety of different ways at different times, in different places and for different purposes by different people (see Lewis 1979; Tuan 1979; Jackson 1979 in Meinig's edited collection for a rich overview of this field). Meinig (1979) identifies ten ways in which the same scene can be interpreted: as nature, habitat, artefact, system, problem, wealth, ideology, history, place and as aesthetic. In 1990s terminology, we would say that these authors are treating landscapes as socially constructed — leaving 'clues' as to the type of people and cultures who inhabited them (Lewis 1979). In an Australian context, Frawley (1992), building on Heathcote's 'ways of seeing' the environment, has classified five different, but sequential, cultural metaphors through which to view the bush — as a scientific, romantic, colonial, national and ecological resource.

The scientific lens is an old one with reference to the Australian landscape. Joseph Banks was the first European to classify the environment from a botanical perspective and various physical and biological scientists have been trying to understand it ever since. In their quest to monitor phosphate levels in the creeks and streams in the Serpentine Jarrahdale Shire some Water Watchers group members have adopted this 'scientific' metaphor for their environment. Interviewees suggested that since water quality was an indication of ecosystem health, by tracking
and recording the highs and lows in pH level and phosphate readings, the whole landscape could be thus measured and interpreted. This is Meinig's 'landscape as system':

For such persons the landscape that others may see is only a facade which their vision penetrates to reveal a transect of intricate pulsating networks, flows, interactions, an immense input–output matrix... is an ideology that implies a faith in man as essentially omniscient; that man through the rigorous disciplined power of his mind will eventually understand all that lies before him in the landscape; that ultimately through science we shall know the truth (Meinig 1979:38).

The romantic metaphor for the environment is also firmly ingrained in Australian history and self-identity. Painters from the Heidelberg school in the last century renounced paintings of seaside retreats reminiscent of more English scenes in favour of painting the Australian bush (Powell 1976). Although as pointed out recently, the landscapes these painters depicted were already well-settled by Europeans and far from being 'rustic' (Gammage 1994; Johnson 1994). In the second half of the nineteenth century, Australian 'intellectuals' were encouraged to dispense with the romanticism of colonial impressions of Australia and emulate the American realist tradition of painting or writing about 'our own life and environment' (White 1981:58). But in the 1940s and 50s the romance of the outback still set the scene for literary works of adventure, discovery and lyrical accounts of Bush Christmases (Gathcart-Borer and Smart 1947) — how different, exciting and novel Australia was for the 'intruders in the bush' (Carroll 1982)! Some of this romance and attachment to simple lifestyles is apparent in the current trend for traditional styles. Country-look clothing outlets, hewn wood furniture manufacturers and local craft galleries have capitalised on this romantic harbinger of safety and unity. Ironically though, the return of a new ruralist myth has ignored 'the mass of misery, human decadence, and violence which once made the countrysides the places of 'savagery' described by so many writers in the last century' (Karnouh 1986:11; see also Tuan 1979). Emancipated or simply bourgeois, the trend in cottage fashion is to furnish our homes with blue and white checked cotton tablecloths and free-range eggs in baskets on wooden sideboards, while we sit in urban comfort and lament the fact
that farmers are still clearing the last ‘virgin bush’ off some rural properties. Is this romanticising our environments?!

The colonial lens was also popular for a long time in Australian history and, as much as I would like to announce its demise, in outback and isolated Australia, the twin practices of decrying the landscape and taming its harshness are still in vogue. Although pioneering explorers believed much of the Mitchell River watershed to be a rich and bountiful source of agricultural production, 1990s ‘developers’ still have the idea that: *the country is useless — it wouldn’t feed a mangy goat* (Mitchell River group member, August 1993). Therefore these people argue, what better to do with it than to rearrange it for human accommodation, to ‘improve’ it, to erect artificial lakes and dams upon it and sell it off to unsuspecting but rich foreign landowners? This echoes another of Frawley’s metaphors, that of national vision which ‘is related to a sense of pride in the achievement of development goals and confidence in Australian potential’ (Frawley 1992:223). According to many local people in Mareeba, one particular development project was a very good investment for the town (see Chapter 5). In a township with 40 per cent unemployment and many social and economic problems — not least of which is racism — it is common to celebrate the successes in the pastoral, mining, agricultural and tourism industries which will help forge the great Australian dream. Not all members of the Mitchell River group share this over-developed nationalistic and colonising view.

With reference to this study, the ecological metaphor was a common one across all three case studies. As public awareness and perception of environmentalism have grown (Milbrath 1984; Botkin, Caswell, Estes and Orio 1989), and with the dawning of widespread recognition that we are living off our natural capital at the expense of our environments (Roberts 1990), a public shift in thinking has occurred. Brian Roberts labels this ‘from me now to them later’ in an aptly titled paper about environmental ethics (Roberts 1993). Just as other social values (eg, attitudes to family and fitness) have altered over the last 25 years, so too has public thinking about environments. But there has been a shift in direction. Choices around sexual preference, drug abuse and family composition have moved from being publicly validated decisions to the private realm, whereas environmental values and choices
have moved in the other direction from the purely private (I'll do what I want to on my land) to the public sphere. The growing fields of environmental ethics and ecological economics are evidence of this change (Costanza 1991; Common and Perrings 1992). The ecological metaphor is perhaps the most important of the five described here in relation to the case studies. As potential threats have become recognised in local environments, there has been increasing involvement in community groups as seen in all three case studies. In turn this involvement has fuelled the demand for transformation toward healthy, stable mature ecosystems and toward independent, self-reliant and sustainable communities existing within particular local places.

2.3.3 Environment as place

Sense of place is the complex, but fascinating intersection of studies in cultural geography:

Common experiences and interests create an emotional attachment and self-definition peculiar to the specific place in which the locales of enduring social relationships are concentrated. This is a local identity or sense of place (Agnew 1992:58).

Sense of place creates both a oneness or connection with the environment and with the people and local organisations which comprise those places (Agnew 1987; Frawley 1992). But it is not something which is acquired when you move into a new area or suburb, it has to be cultivated (Goss 1992). Like culture, sense of place is changing and adaptive, not primordial and fixed. As Agnew elaborates, it is ‘one dimension of a concept of place in which ‘culture’ is a dynamic phenomenon’ (Agnew 1992:53). Just as sense of place is not temporally confined, so it is not limited to any specific rural or urban landscape. It has to be built in the minds of the beholders and the dwellers in any particular place, and it has to built over time:

To arrive in a new and alien land, to build houses and towns, to join them with roads, even to clear the land and start to farm it, all this — the physical inhabiting — is much easier
than the psychological settling of the country (Carroll 1982:vii).

Territory and function are also words long used as descriptive terms to decipher some of the complexity inscribed in the relationships between people and environment in space. John Friedmann, in his role as a transactive planner, clarifies the differences in these terms in relation to planning and space (see Table 2.1).

Table 2.1: People–environment relationships

<table>
<thead>
<tr>
<th>Functional</th>
<th>Territorial</th>
</tr>
</thead>
<tbody>
<tr>
<td>♦ Spatial development planning</td>
<td>♦ Historical development planning</td>
</tr>
<tr>
<td>♦ Emphasises location of economic activities</td>
<td>♦ Emphasises self-reliance in economic activities</td>
</tr>
<tr>
<td>♦ Assumed to have universal validity</td>
<td>♦ Assumed to have district/regional validity</td>
</tr>
<tr>
<td>♦ Mathematically formulated</td>
<td>♦ Holistic, multi-level and complex methods</td>
</tr>
<tr>
<td>♦ Modelled as a network of nodes/linkages</td>
<td>♦ Refers to historically defined populations inhabiting specific places</td>
</tr>
<tr>
<td>♦ Decisions determined by external authorities.</td>
<td>♦ Decisions made by community members.</td>
</tr>
</tbody>
</table>

Source: Friedmann (1973), Friedmann and Weaver (1979)

Yi Fu Tuan has also contributed to the discussion of people–environment relations in terms of local identity with place. He coined the term ‘topophilia’ to mean emotional attachment to and significance of local places (Tuan 1974). The extent to which these features of the relationship between the community groups and their local environments are evidenced is discussed in Chapter 7. In the context of local environmental management, there is another concept emerging — bioregionalism — which is gaining favour as a means by which local communities can live and work in local places while acknowledging the special significance of their surrounding environments.
2.3.4 Environment as bioregion

Some would argue that the history of bioregionalism is as old as civil society itself, originating from the Greek word *bios* meaning life and the Latin word *regio*, meaning territory under rule (Gardner and Roseland 1989). Bioregional theory has gained popularity recently and has become a recognised alternative among the many options presented among sustainable development (Gardner and Roseland 1989).

The essential idea behind bioregionalism is that boundaries of places should not be defined by administrative, political or other human constructs independent of the environmental context in which they are located. The concept has been defined in various ways:

A bioregion is a part of the earth’s surface whose rough boundaries are determined by natural rather than human dictates, distinguishable from other areas by attributes of flora, fauna, water, climate, soils and landforms, and the human settlements and cultures those attributes have given rise to (Sale 1984:168).

Bioregionalism is a philosophy which attempts to integrate human culture with nature by rediscovering and redefining the meaning of ‘community’, ‘place’ and ‘home’ within specific regions (Nozick 1992:84).

There is more to bioregionalism than a simple definition of the boundaries. Various interpretations of bioregional philosophy and practice have emerged. One of these links bioregional theory with the idea of a land ethic so eloquently expounded by Aldo Leopold (1949) in his famous *A sand county almanac*. Whereas bioregional theory focuses on the land, and human interaction with it, Aldo Leopold considers humans to be merely another part of the whole community — natural as well as cultural, and therefore not giving precedence to either end of this artificial dichotomy (Alexander 1990; Mills 1990; Roberts 1990):

All ethics so far evolved rest upon a single premise: that the individual is a member of a community of interdependent parts... The land ethic simply enlarges the boundaries of the community to include soils, water, plants, and animals, or collectively, the land (Leopold 1949).
Bioregional theory, without acknowledging the centrality of Leopold’s ideas, cannot progress beyond the definition of the bioregion itself, unless it recognises and builds upon some ‘first principles’. Kirkpatrick Sale identifies these as; community, conservation, stability, self-sufficiency, cooperation, interconnectedness, sense of place, cohesion, integration, decentralisation, complementarity, diversity, symbiosis, evolution and division (Sale 1984; 1985). Yet, however universal these principles appear to be as core human values, surely they cannot be transposed into rules, laws and covenants of bioregional theory since they mean so much to so many different people. In practice, these principles serve to highlight a fundamental divide in the literature on bioregionalism between environmental determinism (ecological ‘fact’ as precursor of bioregional value) and post-modern relativity (‘facts’ are socially constructed and have no primordial value outside socio-cultural communities) (Alexander 1990).

Critics of environmental deterministic bioregional theory argue that there is a fundamental flaw in the ‘natural law’ and supremacy of ecological processes if they do not consider the cultural end of the bioregional continuum (Gardner and Roseland 1989; Alexander 1990). On the other hand, advocates of environmental deterministic bioregionalism could almost be classified as deep ecologists, paying less regard to human epistemological and ontological systems, while maintaining a hard line in the ‘absolute’ facts and values upholding ecological integrity (Berg and Dasmann 1984). I concur with the critic’s position, but maintain a sympathetic ear for those bioregionalists who argue for societal reform by ecological design. In a recent publication about the history of bioregionalism in the Murray-Darling river basin in south-eastern Australia, Powell takes the view that the kind of bioregionalism that favours withdrawal and ‘reinhabitation’ of local places (environmental determinism) cannot seriously contemplate global sustainability since it does not engage with people and places outside that realm (Powell 1993). The conclusion reached by social ecologists who would favour a more anarchic approach to bioregionalism is that while the bioregion as a local political entity must be more effective than centralised democracy, bioregionalism does not go far enough toward defining what sort of action it would take to organise a bioregionally civil society: ‘Nature sets limits, but it does not dictate how we should treat one another, nor the
kind of policy we should adopt' (Alexander 1990:169). The main difficulty running through this debate is the definition of a bioregion which assumes that some criteria, whether they are biophysical or sociocultural, be given primacy (Alexander 1990). Another problem is the bioregionalism fixation with opposing forces be they biophysical or sociocultural phenomena. Such dichotomies are:

shallow, because there is acceptance of an underlying dualism which sets humans 'apart from' rather than 'part of' nature. The evidence is clear that the human species is an inseparable part of nature and, therefore, by the continued destruction of large parts of nature humanity is in the process of destroying itself (Webb and Harris 1992:28).

In conclusion, bioregional theory offers a great deal to the notion of place-centred environmental action, but does not go far enough in working out how sustainable bioregional communities will act in the context of complex, chaotic, environmental degradation of the kind witnessed daily in local places. The next section establishes that there is a need for integrated approaches to community-based environmental stewardship in the face of such complexity and uncertainty.

2.4 The context for integration

Widespread environmental uncertainty and complexity have given rise to new kinds of 'messes' and turbulence on an unprecedented scale (Grzybowski and Slocombe 1988; Funtowicz and Ravetz 1991; Dovers and Handmer 1993). Concurrently there has been a growing recognition of the need for new problem solving approaches which integrate nature—culture studies with socioeconomic and biophysical systems theories and make use of the knowledge to be gained from biohistorical analyses (Boyden 1976, 1987; Walker 1987; Grzybowski and Slocombe 1988; Slocombe 1990a and b; Webb and Harris 1992). Coupled with increasing complexity in global environmental management is the notion of interdependency in the social, financial and cultural spheres. 'Unravelling' tangled webs of inter-relationships and causal linkages is neither possible nor desirable (Carley and Christie 1992). This complexity is certainly apparent in the community-based environmental groups under
analysis in this research. For example, consider the kind of linkages illustrated in Box 1.4 in Chapter 1 and Figure 7.7 in Chapter 7, regarding the environmental complexity encountered by the Mitchell River and Downside Landcare community groups. Given that there are very many problems, there must be many attempts at solving these, on many different scales and across a range of disciplines. Proponents of community participation and involvement argue the case for local solutions to local problems, however, they invariably take a step back to identify the problems before trying to solve any of them. And yet, Dunn (1991) argues: 'We must get away from the idea that everything is knowable. Furthermore, not all problems are solvable — often the best we can hope for is to improve situations' (Dunn 1991:7).

As Carley and Christie conclude:

This type of complexity precludes straightforward cause-and-effect analysis of the problems and also precludes simple solutions implemented by any agency acting alone (Carley and Christie 1992:153).

To operate in this context of complexity and uncertainty has called for the development of 'post-normal science'. Post-normal science is a development from and extension of traditional science, appropriate to the conditions of the present age. Its essential principle is that uncertainty and ignorance can no longer be expected to be conquered; instead, they must be managed for the common good (Funtowicz and Ravetz 1991:146). Post-normal science responds to both high uncertainty and high decision stakes. Instead of solving problems, these authors state that it is now more appropriate to think in terms of 'coping with and ameliorating' complex issues. Although post-normal science has been constructed in response to global issues and large scale environmental problems, I believe that it now has a place in community-based environmental management at smaller scales since there is no less uncertainty at this scale, it is just qualitatively different.

Single disciplinary approaches are not sufficient for post-normal science: 'as the questions become more and more specialised, the answers become less and less
relevant to the pressing issues of the day' (Brown n.d:6). Labelling the complexity of the Mitchell River Watershed as ‘an agricultural problem’ or ‘a transport problem’ is more than simply not helpful — it is actively misleading. What we need is ‘a critical recognition of the inevitable limitations of our perceptions, and to integrate scientific knowledge with the many sources of social, economic, cultural and intuitive knowledge relevant to complex problems’ (Carley and Christie 1992:155). In addition to collaborative approaches, many believe that what is required is transdisciplinary environmental research which draws on an eclectic array of theories and methods as tools of explanation, not as ends in themselves (Walker 1987; Tighe and Taplin 1990). I am not suggesting that traditional disciplinary approaches be discontinued, rather that environmental research should not be limited to specialist description and analysis, for:

    Today is the desperate time of the dissolving of ‘Berlin Walls’ between the different disciplines of knowledge and imagination (Webb and Harris 1992:28).

Transdisciplinary research goes beyond that of multidisciplinary and interdisciplinary approaches. Tighe and Taplin (1990) associate multi disciplinary research with specialist environmental problems requiring collaborative disciplinary efforts, but which fail to consider the social and political ramifications of their recommendations. Interdisciplinary research is similarly dismissed by these authors. Although it requires a high degree of integration and analysis across many disciplines, and may investigate the social and political dimensions to environmental problems, it fails to make the cognitive leap to the meta-level of analysis in which transdisciplinary research operates. Transdisciplinary research attempts to comprehend the totality of complex environmental problems such as those faced by the community groups of this study:

    This approach explicitly recognises that the solutions posited to environmental problems are determined by the structures and frameworks of knowledge itself (Tighe and Taplin 1990:10).
Furthermore, transdisciplinary research avails itself of both holistic and reductionist methods of analysis and always seeks to make policy recommendations ‘rather than miss the opportunity to feed into important social debates and decision-making in environmental matters’ (Tighe and Taplin 1990:15). To summarise; single disciplinary, multidisciplinary, interdisciplinary and transdisciplinary research are all needed and appropriate for different kinds of tasks. This research uses transdisciplinary research techniques which draw upon an eclectic and expanding set of disciplines, ideas and conceptual frameworks as metaphorical torches to shed light on ‘real’ problems, applied and contextualised within local environments through a process of community-based environmental management (see Figure 2.1). The investigation of ‘situation-based’ problems is another reason to choose an eclectic, holistic approach to the environment (Walker 1987; Fisher and Hoverman 1989). In summary, it is important to describe and analyse i) context specific problems ii) from a transdisciplinary perspective, iii) with an approach which can best be labelled ‘intelligent pragmatism’ and bases itself on the principles of simplicity, eclecticism, versatility and pragmatism (Walker 1987). However, it is important to consider the limitations of such an integrative approach.

Figure 2.1: Transdisciplinary research — model A

2.4.1 The limits to integration

The problem is that there are few truly transdisciplinary studies to draw from. Tighe and Taplin (1990) point to Capra (1983), Milbrath (1989) and Young (1990)
as exceptions to this, but these are much broader than the problem-focused nature of this study and therefore not comparable. Indeed, most transdisciplinary studies barely rate a mention when compared to the large volume of published work in the traditional disciplines. There is also a lack of transdisciplinary studies in applied research where arguably there should be many collaborative efforts. One executive officer of an Australian research and development (R&D) corporation made the following recent observation about the lack of collaboration:

One might think that in a vast country, with many pressing problems and with a limited population, coordination and collaboration between researchers and their organisations would not be a problem. If only it was so! There is abundant evidence, much of it received by the corporations in the form of the many R&D applications we receive each year, that the level of coordination and collaboration between researchers across geographic, administrative and discipline boundaries is woeful (Price 1993:9).

Lack of resources may be contributing to this lack of coordination. Indeed, as has been suggested by many academics inclined toward transdisciplinary research, it is one of the major factors leading to the prevention of truly collaborative and transdisciplinary research. Whilst public institutions are having their purse strings tied, government departments and university faculties are fighting to maintain their integrity rather than squandering resources on projects involving potential competitors. But perhaps the most limiting factor is the current institutional culture of government agencies and university departments.

‘Hard’ scientists have long eschewed ‘soft’ science approaches to environmental problems and vice versa. Different styles and modes of discourse have concentrated this trend which has led to entrenched ideological suspicions between the sciences and humanities... not to mention different government departments: ‘Difficulties in communication are likely to arise between social and ‘hard’ scientists because the latter frequently expect social theory to be deterministic — on the Newtonian model — rather than probabilistic’ (Fisher and Hoverman 1989:4; see also contributions from Mulvaney 1990). Without going too far into the relative advantages and disadvantages of each approach, it would be true to say that there are many
historical reasons for different departments and organisational groups to mistrust, ignore and shun each other, some of which are specified in Chapter 9.

In a recent survey commissioned by the National Board of Employment, Education and Training (used to assess and evaluate research performance indicators in Australia), collaborative research was listed by 22 of 24 disciplines as less important as a measure of performance when compared to publications, keynote addresses, citation listings and competitive grants (National Board of Employment, Education and Training 1993). In the same survey, when academics were asked to stipulate their primary methods for disseminating their research results, 97 per cent of sampled academics preferred to publish papers in refereed journals rather than giving advice to the community. This example serves to illustrate the age old conflict between assumed ideological stances of what is politically correct behaviour and the underlying realities of entrenched institutional structures, meaning although it is commonly thought good practice to report back to the community and to policy-makers, most often research results are published in academic journals. It does not paint a very positive picture for those of us interested in context-specific transdisciplinary research within academia. However, in terms of focusing on complex environmental problems, transdisciplinary research is still, I believe, most qualified to do the job.

2.4.2  Model of integration
Figure 2.2 provides an overview of the disciplines, methods and literature (around the ‘mandela’) used in researching this topic. Inside the mandela, nine segments represent the principles of community-based environmental management. These have arisen from description and analysis of each case study and form the substantive or grounded theory elaborated in Chapters 7 and 8. Please note that although the diagram neatly captures the scope of this study with hard definite lines separating what is in and what is outside the figure, there are many more concepts, key ideas and intuitive beliefs that could have been included. Not all of these are represented here, just the main ones. Also note that for the sake of visual appeal, all segments and categories of knowledge are represented as contributing equally to
this study. This is a false claim, but a convenient one for the sake of expressing the essence of these ideas diagrammatically.

2.4.3 The principles of integration

In all this discussion of the need for integration, there are two important principles. Firstly, top-down and bottom-up approaches are both necessary, as are those of the natural and social sciences. But these simplistic dichotomies are not alternatives or mutually exclusive. They are merely heuristic devices used to provide a means of approaching this topic. Hence, rather than encourage a middle-ground compromise (although this may sometimes be necessary), I am suggesting that new ways of promoting environmental stewardship be constructed by establishing a means of dialogue and exchange between the respective ends of these continuums.
Second, the research is not an attempt at universality; not everything has to be considered, weighed up and rationalised. Holism is not something one does. It is something to be considered when placing oneself along the many points of the practitioner — academic, top-down — bottom-up or left-wing — right-wing continuums to name just a few. Holism is not specialisation, but neither is it totalitarianism and therefore, it cannot be applied or understood as the science of adding up a series of fragmented, reductionist, discontinuous parts (Fisher and Hoverman 1989). In expanding conventional disciplinary horizons and seeking holism and synthesis, perhaps this study is ecological after all since:

only ecology could make such an apparently unscientific and irrational transgression by crossing so many boundaries of seemingly unrelated disciplines (Webb and Harris 1992:26).

2.4.4 Post-modernism

Returning to the topic of complex, uncertain environmental landscapes, if ‘post-normal’ science can make a valid contribution to this field, I believe an investigation of the notion of ‘post-modern’ societies may be equally fruitful. What can the liberal arts, humanities and social sciences offer a discussion of the environment? And how does post-modernism differ from other research paradigm approaches (discussed further in below) flourishing in these fields? First, at the risk of ‘jumping on the bandwagon’, this is a concept ‘that is at once fashionable yet irritatingly elusive to define’ (Featherstone 1988:195). For the many who throw up their arms in horror every time they hear the terms ‘post-modern’, ‘post-modernism’ or worse, ‘post-modernity’, allow me to attempt an albeit partial interpretation of this monster.

Post-modernism implies an era beyond the modernist age if one assumes that ‘modernity entered history as a progressive force promising to liberate humankind from ignorance and irrationality’ (Rosenau 1992:5). In this sense, post-modernity is more concerned with a negation of modernity and all that it entails than a complete reconstruction of society (Featherstone 1988). It is concerned with celebrating difference and diversity and with plurality in acknowledging the position of situated knowledges (Haraway 1988). Post-modernism de-emphasises centralist,
big-brotherly, techno-scientific ways of knowing and recognises the role of information technologies in the post-industrial age. Vattimo (1992) recognises the powerful role that the mass-media plays in post-modern society reflecting the complexity and chaos in our lives which in turn opens the possibility of new dialogue, interpretations and understanding of other peoples lives in other environments. However, post-modernism does not solely rely on 'technogizmology' for inspiration. It promotes the rural, peasant, traditional lifestyles of marginalised country folk and celebrates the mythical, the traditional and the absurd in everyday life. Post-modern writers renegotiate place and placelessness and refuse to conform to the widely accepted notion of time as linear, progressive and stochastic (Karnoouh 1986; Roy, Walker and Ashley 1988; Rosenau 1992; Vattimo 1992).

Post-modernity explores rather than discovers, and elevates the position of the reader (or perceiver), whether in relation to literary, landscape or architectural texts. Interpretation and the construction of meaning is 'all the rage':

Post-modernists rearrange the whole social science enterprise. Those of a modern conviction seek to isolate elements, specify relationships, and formulate a synthesis; post-modernists do the opposite. They offer indeterminacy rather than determinism, diversity rather than unity, difference rather than synthesis, complexity rather than simplification. They look to the unique rather than to the general, to intertextual relations rather than causality, and to the unrepeatable rather than the re-occurring, the habitual or the routine. Within a post-modern perspective social science becomes a more subjective and humble enterprise as truth gives way to tentativeness (Rosenau 1992:8).

Epistemologically, there is no one detached, impartial, 'real' world. Through post-modern eyes, 'reality' is constructed, interpreted, located and relative — borrowing from the schools of ethnomethodology and symbolic interactionism. In this sense post-modernism complements naturalistic paradigm research and cooperative enquiry methods in the social sciences. But it goes further, recognising that there are multiple paradigms of inquiry within the social sciences and not affording any one research method special attention as the 'new paradigm'. Post-modernism asserts that 'the multiple paradigm state in the social sciences means that Kuhnian paradigm
shifts such as those in the physical sciences are conceptually impossible, because there is simply no dominant paradigm to be overthrown' (Skrtic 1990:127). Along similar lines, it would be a mistake to assume that all those branded with the post-modern tarbrush are of one ilk. Rosenau (1992) makes a distinction which divides the mob.

Sceptical post-modernists are followers of Nietzsche and Heidegger — nihilist in outlook and negative in persuasion. They refuse to be drawn from their individualistic cubbyholes or make any attempt at classification or categorisation of the world or each other. Negative even, Rosenau depicts the sceptics version of post-modernity as ‘one of fragmentation, disintegration, malaise, meaninglessness, a vagueness, or even absence of moral parameters and societal chaos’ (Rosenau 1992:15). I do not share the views of the sceptical post-modernist writers, such as: Edelman, Vattimo, Derrida, Megill, Lyotard, Baudrillard, Culler, De Man and Kellner1.

Affirmative post-modernists, although sharing a disregard for modernity with the sceptics, offer a more optimistic vision of the future. They may align themselves with political groups, new-age philosophies and new social movements as they strive for a better world. Nor do they shy away from making value judgements or taking a position in an ethical dilemma. Affirmative post-modernists extend the nature of inquiry beyond description of the individual or unique event toward a shared, located, translated and constructivist epistemology. Haraway (1988) labels this ‘situated knowledge’ and makes the point that the knower of this knowledge is located, partial, subjective and fully able to engage others in dialogue to construct referential knowledge systems about the world. I share this view along with affirmative post-modernist writers which include: Dallmayr, Zagorin, Goodman, Smith, Fish, Huyssen, Mouffe, Falk, Nelson, Redner, Walker and Aronowitz (also see Rosenau 1992). Prigogine and Stengers could also be interpreted as post-modernists when they talk of ‘qualified hope’ for the universe. They surmise that with the abandonment of stable permanent rules of society and the advancement of

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1 For more about these authors, see Rosenau (1992), *Post-modernism and the social sciences*.
innovation and sparks of individuality, there is ground for cautious optimism about the future (Prigogine and Stengers 1984).

So how does post-modernist theory fit with an examination of community-based environmental management? First:

Post-modernists question any possibility of rigid disciplinary boundaries between the natural sciences, humanities, social sciences, art and literature, between culture and life, fiction and theory, image and reality in nearly every field of human endeavour (Rosenau 1992:6).

In other words, post-modernist theory respects diversity and attempts integration across the disciplines as noted above. Second, there are no answers. Post-modern 'experts' recognise that they do not necessarily know any more than the general public when it comes to making decisions in ignorance, taking account of uncertainty and 'learning our way forward'. Third, post-modernist theory can inform the complexity and interconnectedness of the biophysical and socio-cultural worlds through an understanding of intertextuality rather than through a determination to unravel causal links. Simply put, post-modernists interpret everything as texts — elections, catchments, speech events, etc. Intertextuality implies connection, both within and between texts. Thus complex environmental issues such as watershed management can be 'read' as a form of intertextuality. What appears first as a simple problem quickly assumes complex, multi-layered proportions which lead to other interrelated problems and are confounded by rapid change, ad infinitum. Rather than freeze the events and attempt to decipher which variable influenced what outcome, intertextuality merely recognises the complexity inherent in the system and attempts to go no further. Intertextuality is not a quest for causality, it merely reflects the chaos of interacting events, agents and objects. Rosenau recounts chaos theory's oft-cited butterfly-effect story as an example of extreme intertextuality. She elaborates: 'Sometimes causality is redefined as so complex and interactive as to defy disentanglement and inhibit estimating probable future outcomes' (Rosenau 1992:33). Steering away from 'Galilean-Cartesion-Baconian-Newtonian' scientific worldview is all the better according to the post-modernists for 'the continuation of
modernity threatens the very survival of life on our planet’ (Orr 1992:iii). Instead, dialogue and exchange is what post-modernism must turn to in order to shed light on complex, intertextual, environmental problems such as those addressed by the Water Watchers, Downside Landcare and Mitchell River groups (see Chapter 9).

2.5 Summary

Australian rural environments are experiencing profound change as they adapt from being colonial, isolated and traditional landscapes to ones undergoing structural, ecological and social change (Frawley 1994; Johnson 1994). Many people living and working in these environments hark back to earlier times when there were fewer environmental problems, combined with less complex social and economic conditions. Current rapid changes in land and water systems are creating problems resulting in complexity and uncertainty, but also challenges and opportunities which are only just beginning to be understood (Dovers 1994; Gammage 1994). Many places have experienced rapid and profound alterations to their environments. What is new is the way in which community groups are choosing to manage the changes — through discussion, cooperation and mutual exchange. Norman Dale labels this process ‘learning as a collective experience’ (Dale 1989:51). In Chapters 4 and 7, I argue that many of the residents and members of these community groups are practical people, who prefer pragmatic and ‘do-able’ outcomes over ‘wishy-washy, airy-fairy warm and fuzzy’ processes such as sitting down and talking about the problems. Despite this, I suggest that it is because they have engaged in discussion at the outset, they have already taken the first step toward understanding and enunciating environmental problems, and therefore have made progress in solving the apparently insoluble.

Cooperative, consultative and participative processes have been heralded by a new administrative era which embraces the workshop, flip-chart paper, team-building exercises and the accompanying management consultants to facilitate these sessions. The principle underlying these practices is important. Governments do not always know best and therefore should not espouse their policies and approaches without consulting local opinion. Now that this admission is out in the open, there is some
anger by the public that somehow they have been duped into believing extension scientists and agricultural management consultants in rural areas. In one case study I noted the reaction of a sugar cane and tobacco grower when he discovered the specialist's concession to lack of pure knowledge on his farm.

When I was younger — I always thought that these people in government departments could take care of it [the environment], but now I'm seeing that sometimes they get off the track ... We thought they would have had things more under control than that. I'm starting to realise that they're not much smarter than us — even with training, they still make mistakes (Mitchell River group non-member, August 1993).

Society can no longer unquestioningly rely solely on structures which are premised on positivist science and rationality, especially when attempting to redress environmental, economic and social pathologies in rural communities. These local places are firmly rooted in local history and tradition, it is not surprising therefore that they have developed rural ideologies which border on the mythical. New — dare I say post-modern — approaches which incorporate myth and tradition are being tried. These approaches challenge rationality, retreat from centralised planning, withdraw belief in expert and specialist opinion, gain inspiration from local and 'primitive' cultures and above all 'question the authority of hierarchical, bureaucratic decision-making structures that function in carefully defined, non-overlapping spheres' (Rosenau 1992:7). Given the complexity and uncertainty of the future, community groups are in the best position to ask these questions and to act upon their collective wisdom — cooperatively.

Because the groups which I have investigated are complex and eclectic, diverse in method and approach, so there must be a similar approach to carrying out this research. Just as community groups are entering into partnerships with government agencies and endeavouring to marry local knowledge with traditional science, so this dissertation must remain true to their conviction and commitment and carefully balance the competing science in various research paradigms. The next chapter analyses the method and approach taken when conducting this research.
Methodology
Photograph by: Community Catchment Centre, Pinjarra
Water Watchers group members monitoring water quality, Oakford, WA.
The way a research project is conducted fundamentally alters the 'results' arising from it, therefore it is particularly important for an interdisciplinary study such as this to make the philosophy of and approach to the research explicit. An analysis of the research design, justification of the validity and reliability of the study, case data collection techniques, and an examination of the data analysis methods are the more usual topics of research methodology which follow this introductory statement. The primary fieldwork was carried out over three periods of six weeks each, between December 1991 and October 1993. The research methodology drew on a mixture of quantitative and qualitative techniques based on a case study design. The foci of the research were members, non-members and government officers associated with the Water Watchers, Downside Landcare and Mitchell River community groups.

3.1 **Philosophy and approach**

There have been many challenges to positivist, rational, western scientific epistemologies over the second half of the twentieth century (Kuhn 1962; Feyerabend 1975; Chalmers 1982; Vattimo 1992). This type of knowledge is predicated upon explaining and classifying 'real world' situations and has been labelled variously as the conventional, traditional or dominant paradigm of inquiry (Firestone 1990; Guba 1990). Some authors pronounce this type of modernist belief in an external, objective reality as extremely ill-founded and narrow-minded:

> The process of knowing should be seen as interactive, value-bound and context determined, rather than detached, value free and independent of context. The human mind is not simply a 'mirror' that accurately reflects a reality 'out there' (Rorty 1980). Interpretation, translation and representation are social acts that cannot be assumed to be neutral and 'objective'. Rather than talking of 'things', we should begin to talk about the way we talk about things (Scoones and Thompson 1992:7).

Accordingly, other research paradigms have emerged such as the constructivist (interpretivist), critical, post-positivist, alternative, cooperative, new or naturalistic paradigms of inquiry (Heron 1981; Rowan and Reason 1981; Lincoln and Guba 1985; Guba 1990; Eisner 1990; Robottom and Hart 1993a; Robertson 1994). Some
of these have ontological, epistemological and methodological stances in common, in other words, they share notions about the nature of reality, the different ways of knowing and the different methods for developing knowledge (Guba 1990; Robottom and Hart 1993a). However, there is much debate concerning the extent to which these various paradigms of inquiry can be accommodated (Firestone 1990; Skrtic 1990). Here is not the place to enter further into this debate. The important point about these multiple paradigms of inquiry is that this study is not firmly premised on any single paradigm. Instead, true to its post-modern allegiance revealed in Chapter 2, the task of this research is to extend the philosophy and methods of inquiry to reconcile community based environmentalism with 'the ideals of democracy and social justice' (Skrtic 1990:135). As Gregory (1989:69) states: 'post-modernism is, in a very real sense, "post-paradigm"'.

This study draws from critical theory, constructivist or interpretivist theories and a pragmatic approach to human inquiry because of the complexity, uncertainty and diversity of community approaches to sustainable environmental management. The diverse methodological stances taken toward this research have come about as a consequence of the epistemological positions noted above. On the basis of the topic at hand, I believe that there is:

no alternative but to pluck different elements from different systems for different purposes [but that] this is not a licence for an uncritical eclecticism: patching them together must, rather, display a sensitivity towards the differences and disjunctures between them (Gregory 1989:69).

Toward the goal of pragmatism, I have firmly based this study within the everyday rural life of community groups operating from local places. After all, it is in everyday experience and opportunities to learn about the world at first hand that knowledge is gained about how people interpret and construct their everyday experience (Schutz 1964; Berger and Luckman 1973; Burgess 1984).

The ethics of conducting first hand research with people on issues of direct importance to their lives required careful consideration:
The central issue that all field researchers must constantly address is namely the extent to which their activities are unethical. For it is only by constant self-evaluation and reflection on our research experiences that we are most likely to understand moral dilemmas and the compromises that we are required to make in the conduct of field research (Burgess 1984:207).

There were certain times during fieldwork when added sensitivity was required in order to maintain trust and rapport with community group members. An understanding of community dynamics was necessary such that personality conflicts and faux pas were avoided between group members and a good working relationship established between myself and each group. Citations in this report are anonymous. On a few occasions pseudonyms have been used to protect confidentiality since confidentiality and anonymity are crucial components of maintaining good faith when conducting qualitative research.

This study begins with description of substantive issues — community approaches to sustainable environmental management (profile and process), and incorporates aspects of abstract conceptual approaches to the issue at hand (principles). Wicker (1989) labels this approach 'substantive theorising' because it moves from the specific substantive problem at hand to the general academic convention and bases the methods chosen for the research on the nature of the issue under investigation. 'The methods selected are constrained by both the substantive domain being investigated and the conceptual framework' (Wicker 1989:535). In other words, the methods chosen for this research are highly dependent on the nature of the community groups under analysis and evolve as the research project proceeds. Hence, a variety of methods are necessary given the diversity within and between the community groups and the integration of a number of research disciplines (Box 3.1).

### 3.2 Role of researcher

Although this research shares aspects of the philosophy and practice of both action research and critical theory, it does not engage in a pure version of either.
Box 3.1: Research philosophy

| Assumptions about reality: | multiple, constructed realities |
|---------------------------|---------------------------------
| about knowledge:          | multi-layered, complex, interactive, socially produced, active, individually applied (agentive) and context specific |
| Values                    | honesty, transparency of research, critical thinking, creativity, negotiation and openness |
| Role of researcher        | catalyst, creative investigator, active participant, collaborator, influences research outcomes, interactive |
| Style of investigation    | open ended, post-positivist, flexible, iterative, evolving |
| Research approach         | holistic, exploratory, interpretive, |
| Role of theory            | grounded by the data, interacts with practice, secondary to research issue, eclectic and multi-disciplinary |
| Information collection and analysis | multiple methods, shared with participants, iterative, continuous, on site, exposed or overt |
| Sampling approach         | used to maximise diversity, generalise to theory and ideas |
| Validity                  | locally evaluated, open feedback, explores diversity, uses several methods |
| Research outcomes         | policy oriented, practical, experiential, local understanding for adaptive action. |

Adapted from Scoones and Thompson 1992; Yin 1984; Wicker 1989.

Constrained by the bounds of a PhD thesis, this study cannot attempt to make as many contributions to the policy and practice of community-based environmental management as I might wish. Instead, I appear to walk a tightrope of creative tension between gaining admission to an academic qualification and a desire to make a practical difference in the way that community groups undertake sustainable environmental management.

Throughout the research, I did not assume the position of an impartial and objective scientist artificially trying to control all the variables arising within the community context. I made it known to each of the community groups that I supported their endeavours and was interested in understanding how community groups work. Interviewees were told that this type of information was sorely needed so that
governments could attune their sustainable environmental management policies to be more inclusive and respectful of the community position.

The assumptions and values that I brought to the research question also influenced the direction of the study. My previous interests in community development, local initiatives, sustainable environments, self-reliance and bioregional systems theory were already developed when the research began. Some of these interests grew from practical experience in the field of community development. Others were elaborated whilst conducting research into local economic development and rural employment initiatives as part of my Masters degree. Over three years, these interests were expanded and strengthened by this study.

My background and cultural origins also made a difference to the research and to those whom I interviewed as part of the research. Having grown up on a sheep and wheat farm in Western Australia, I was able to develop a rapport with rural people. In each community group, my rural background enhanced my credibility with interviewees because even though I was now living in an urban environment. My gender also influenced this process of building rapport. Being the only daughter in a farming family, it was never expected that I should return to live and work on the farm. Most of the interviewees shared this assumption. It was upon that basis that I could publicly acknowledge a love of the land and the associated missed opportunities to return to farming which validated my current interests in environmental management and rural communities.

3.3  Research design

Given the nature of the topic and its transdisciplinary focus, the research design had to encompass a variety of methods and techniques to meet the specific needs of the project. Case studies seemed to offer the most flexibility in research design (Hakim 1987). Box 3.2 describes the ideal research design, although there were inevitable diversions which meant that unequal periods of time passed between completing the first and second cases compared to the second and third cases. The educational case study approach was chosen because I wanted to describe and understand the
principles by which community groups can operate sustainably within their local environments (Stenhouse 1985).

**Box 3.2: Research design**

<table>
<thead>
<tr>
<th>Research design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readings</td>
</tr>
<tr>
<td>Design data collection protocol</td>
</tr>
<tr>
<td>Select 1st case study</td>
</tr>
<tr>
<td>Conduct 1st case study</td>
</tr>
<tr>
<td>Write 1st case study report and conclusions</td>
</tr>
<tr>
<td>Draw cross-case conclusions</td>
</tr>
<tr>
<td>Generate theory</td>
</tr>
<tr>
<td>Develop policy implications</td>
</tr>
<tr>
<td>Write thesis</td>
</tr>
</tbody>
</table>

*After Yin 1984.*

Case study research is used when:

- asking who, what, how and why questions
- there is little or no control over events
- studying contemporary phenomena within a real-life context
- using multiple sources of evidence
- defining topics broadly and not narrowly
- covering context, not just the object of study (Yin 1984; 1993).
### 3.4 Case study selection

In accordance with the action–research style of the study, the first step toward selecting potential case studies was to conduct a pilot case study. The pilot case was a community group who were known to me via an informal professional network. The criteria used to base my decision to investigate the group was that it was a) a voluntary group, not coopted or government initiated; b) in a rural area; and c) a group whose members were engaged in stewardship activities, as opposed to primarily advocacy work. These three criteria remained constant when choosing other case studies. Having completed the pilot in collaboration with group members, I returned several months later and it became my first case study. After making some minor adjustments to the research design, the next task was to select future groups on the basis of other criteria which brought out different aspects of the context in which the community groups operated. These criteria included the geographical location, land use, issue focus, State, history and gender of participants (Table 3.1).

<table>
<thead>
<tr>
<th>Group/Criteria</th>
<th>Water Watchers</th>
<th>Downside Landcare</th>
<th>Mitchell River</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>WA</td>
<td>NSW</td>
<td>QLD</td>
</tr>
<tr>
<td>Location</td>
<td>Semi-rural</td>
<td>Rural</td>
<td>Isolated</td>
</tr>
<tr>
<td>History</td>
<td>1 year</td>
<td>3 years</td>
<td>3 years</td>
</tr>
<tr>
<td>Issue</td>
<td>Water quality</td>
<td>Dryland salinity</td>
<td>Catchment management</td>
</tr>
<tr>
<td>Membership</td>
<td>Women</td>
<td>Both</td>
<td>Men</td>
</tr>
<tr>
<td>Land use</td>
<td>Mixed</td>
<td>Uniform</td>
<td>Mixed</td>
</tr>
</tbody>
</table>

After completion of the first case study, a week long trip was made to prospective groups in southern New South Wales and Victoria to interview other potential groups who met the selection criteria. Another preparatory trip was made to
Queensland after conducting the second case study to select the third community group. When interviewing members of prospective groups, I asked individuals to comment on:

- Group information, for example, membership, meeting schedules, representation of women, turnout to group activities, etc.
- History of the group, time elapsed since establishment, what helped them get started, etc.
- Projects undertaken, current and previous events, extent of ‘hands-on’ work carried out, etc.
- Issues arising in the group and in the community, conflicts between members, economic, social and environmental problems, etc.
- General land use information, diversity, average size of holdings and any other comments pertinent to their potential selection.

3.5 Validity and reliability

In choosing to complete three case studies, I was aware of the potential danger of limiting the significance of this research to those cases. Accordingly, the research attempted to generalise the ‘results’ to broader theoretical concerns and issues of community-based environmental management rather than to other community groups. Nor did it set out to provide a recipe or proforma for group functioning. Yin emphasises this point when he says ‘survey research relies on statistical generalisation, whereas case studies (as with experiments) rely on analytical generalisation’ (Yin 1984:39). To increase the external validity of the generalisations or principles arising from this research, I chose to use a multiple (3) case design. This served to increase the robustness of the evidence by replicating the research design in other community groups not to increase the population or number of samples using sampling logic.

Due to the high level of criticism of previous case study research (see Stake 1978; Hamilton 1980), it is important to demonstrate the quality and transparency of this
study through attention to questions of construct validity and reliability as well as to external validity (see Table 3.2).

Reliability has traditionally been defined as the consistency of assessment by the data collection method, and validity as the extent to which it assesses what it claims to assess (Viney 1988:199).

Table 3.2: Validity and reliability

<table>
<thead>
<tr>
<th>Tests</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construct validity</td>
<td>♦ Use multiple sources of evidence</td>
</tr>
<tr>
<td></td>
<td>♦ Explicit links between questions asked, data collected and conclusions drawn</td>
</tr>
<tr>
<td></td>
<td>♦ Have participants review CRES working papers</td>
</tr>
<tr>
<td>External validity</td>
<td>♦ Use replication logic in multiple case study design</td>
</tr>
<tr>
<td>Reliability</td>
<td>♦ Document research procedures</td>
</tr>
<tr>
<td></td>
<td>♦ Design protocol documents</td>
</tr>
<tr>
<td></td>
<td>♦ Develop case study data base</td>
</tr>
</tbody>
</table>

These concepts have been further refined for use with case study methodology by Yin (1984). Construct validity is about relating that which is under investigation to the research questions and findings. By using multiple sources of evidence collected using a variety of techniques for each case study, research questions were answered by several different means. However, I am not suggesting that this process would provide a more accurate or 'more real' version of what is under investigation, for 'we have to be careful about inferring a master 'reality' in terms of which all accounts and actions are to be judged' (Silverman 1985:21). I was attempting to make the study more rounded and complete.

This use of triangulation is common among the social sciences (Silverman 1985; Walker 1985; Hakim 1987) to get a 'more complete' picture of the research by looking at it from different angles and positions. Triangulation can be applied to:
CHAPTER THREE - Methodology

- different methods
- different sources
- different investigators, and
- different theories (Denzin 1978).

However, 'the value of triangulation is not as a technological solution to a data collection and analysis problem; it is a technique which provides more and better evidence from which researchers can construct meaningful propositions about the world' (Mathison 1988:15). Its usefulness in this context is to improve the credibility of the interpretation of findings by triangulating different sources and methods of data collection rather than by using different investigators and theories. From the perspective of the new paradigm research school, the latter types of triangulation are somewhat problematic for two reasons. Firstly, given different backgrounds, experience and style of interaction with the event or subjects of research, 'one could not expect corroboration of one investigator by another' (Lincoln and Guba 1985:307). Secondly, the data 'as facts' do not become any more or less credible when compared against a number of different theories since the interpretation of a fact in one conceptual framework or epistemology may be quite different to its interpretation under a different academic schema. This study attempts to maximise the credibility of the research findings through attention to multiple sources of evidence (primary and secondary data) as well as to multiple methods of data collection (semi-structured interview, focus group, observation and demographic survey). The relationship between the research questions and the findings was made clear to those who participated in the research at the community level via a Working Paper which invited them to comment.

Reliability is recognised as an important part of attempting to conduct the research in a manner which is internally consistent and replicable. To improve the reliability of this research, a case study database was designed with the assistance of a computer-based qualitative research program. This was done with the intention of returning to the data at a later date. A working proposal and protocol for each case study community group were also established in order to provide more information to the research participants. They appear at Appendix 1.
Lastly, one of the major benefits of using qualitative research tools such as the semi-structured interview (discussed further below), is that it is based upon an individual’s own construction of his or her perceptions, feelings, attitudes and beliefs and when faithfully recorded, cannot be dismissed as invalid. Its reliability lies in the extent to which a researcher has been able to record and interpret the data obtained (Hakim 1987).

### 3.6 Data collection

This study uses a mixture of primary and secondary data collection techniques. However, given the nature of the inquiry, I have concentrated on the former. Primary data gathering techniques used in this study include semi-structured and unstructured interviewing, focus group technique, participant observation and demographic surveys.

#### 3.6.1 Interviews

Semi-structured interviews were conducted with community group members (37 respondents) local non-members (22 respondents) and government officers associated with the group (27 respondents). Semi-structured interviews were the main data collection method for the research. Unstructured interviews were also used to select the case studies and when gathering oral histories for the case study area under analysis. Three unstructured interviews were conducted to make a total of 89 interviews. Table 3.3 details how many and what kind of interviews were conducted for each study. A list of all interviewees from each community group appear at Appendix 2. The unstructured interviews were treated separately and not analysed with the rest of the data since they did not follow any set format and were more like a general discussion than an interview. Minichiello et al (1990) differentiate between these two types of interview technique:

<table>
<thead>
<tr>
<th>Semi-structured</th>
<th>Unstructured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of an interview guide</td>
<td>No interview guide</td>
</tr>
<tr>
<td>Predetermined wording and ordering of questions</td>
<td>Wording and structure not predetermined</td>
</tr>
<tr>
<td>One session only</td>
<td>Repeated sessions</td>
</tr>
</tbody>
</table>
Table 3.3: Semi-structured interviews conducted

<table>
<thead>
<tr>
<th>Interviews</th>
<th>Water Watchers</th>
<th>Downside Landcare</th>
<th>Mitchell River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members</td>
<td>10</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>Non-members</td>
<td>6</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Government officers</td>
<td>12</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Totals</td>
<td>28</td>
<td>28</td>
<td>30</td>
</tr>
</tbody>
</table>

Interviewees' statements were written down rather than tape-recorded because this study was not focused on the linguistic nature of each interview, but rather on what was said. After every question I read back interviewees' responses and encouraged each person to add, reflect upon and change or 'pass' their statements. On the few occasions when I was drawn into conversation with a respondent, I stipulated that I was changing roles and had come out of interview mode in order to discuss an issue. Since I was conducting exploratory research and not explanatory research, there was no need to hide my findings or exclude the participant in any way.

All interviews were set up in advance by telephone and took place either in the home or workplace of the interviewee. At that time I also told the respondent the goals of the research and how it was relevant to that individual's situation. With few exceptions, prospective interviewees had already heard of my visit through local networks or at the meeting in which my request to study the group was discussed. At the beginning of each interview respondents were assured that their responses would be anonymous and confidential. Respondents set the pace and tone of the interview. At the end of each session, I thanked the participant and told them that feedback would be provided in the form of a Working Paper. The interview guide differed for members, non-members and government officers and also varied slightly between case studies. Sample interview guides for members, non-members and government officers appear at Appendix 3.
Twenty-nine interviews were conducted in both the Water Watchers and Downside Landcare groups (28 semi-structured and 1 unstructured interview). I conducted 31 interviews for the Mitchell River group (30 semi-structured and 1 unstructured). However, there were more than 89 interviewees because on approximately 10 occasions I interviewed couples together, and in one instance a mother and son at the same time. Usually I preferred to conduct individual interviews because, with someone else in the room at the same time as the respondent, views and opinions were exchanged and refined. Although the quality of information noted was higher than with one interviewee, the disadvantages of interviewing two people at once meant that it was often more difficult to write down responses as fast as they were uttered. It was also difficult to ensure that both respondents were contributing to the interview at the same time as recording their statements.

Wherever possible the interviews were conducted in one session which usually took between 1—2 hours. Sessions ranged in duration from a minimum of one hour to a maximum, on several occasions, of five hours each. On these occasions appointments were made with the respondent to continue the interview at a later date, due to the extra time involved. Each interview started with more general and less personal questions to encourage respondents to feel at ease. Questions included: ‘what do you think are the environmental problems in this area?’, ‘what do you think should be done about them?’, ‘what is your understanding of a community group?’, ‘what motivates people to join community groups?’ and ‘what are the factors which restrict or prevent people from joining community groups?’ More specific and refined sets of questions were asked as the interview progressed. These included questions about: membership; skills; time and resources involved; projects of the group; personal motivations for joining and personal evaluations of the group process. Whenever interesting comments were made by the respondent which did not fit into the interview guide, they were recorded as additional notes. However, true to the format of the semi-structured interview, I was always able to come back to the guide to ensure that all questions had been answered, even if it was not always in the same order in which they first appeared.
Direct quotes have been used extensively throughout this report to illustrate specific ideas or themes. These quotes lend authenticity to the text and bring some of the ideas to life in ways that an analytical voice can never achieve. However, as mentioned above, for the sake of anonymity, no real names or identifying characteristics are associated with these quotes. For longer citations, the quotes have been italicised and set apart from the rest of the text. Shorter citations appear in italics within the main body of the text without any accompanying reference.

3.6.2 The focus group

Focus groups were used in all three case studies to gather qualitative data from a group of people whose common characteristic was that they were all members of the specified community group. A focus group is defined as:

A carefully planned discussion designed to obtain perceptions in a defined area of interest in a permissive, non-threatening environment. It is conducted with approximately seven to ten people by a skilled interviewer. The discussion is relaxed, comfortable, and often enjoyable for participants as they share their ideas and perceptions. Group members influence each other by responding to ideas and comments in the discussion (Krueger 1988:18).

Although traditionally used as a method for marketing to gauge consumer reactions to new products, the focus group is now an accepted qualitative research tool. A typical focus group follows a predetermined agenda for discussion, is led by an external moderator or facilitator and includes people who share certain characteristics. The focus groups in this study differed from standard methodological procedure in that the participants were known to each other. However, given that the main purpose of these groups was to elicit perceptions, feelings and attitudes toward significant issues raised by focus group participants, I feel justified that this could not have been done in any other way within a group context. Since this study was designed primarily to be illustrative or illuminative research and not explanatory or ‘fact-finding’ research, this intersubjectivity did not prove to be any great problem.
Three focus group meetings were held with a total of 23 people (6 members of Water Watchers, 9 members of the Downside Landcare group and 8 members of the Mitchell River group). The focus groups were held in a community hall, a tennis club and in government offices respectively so as to minimise interruptions and have all participants in an environment with which they felt comfortable. All groups took place at a time suitable for those attending and lasted between 2.5 to 3 hours. Each focus group was tape-recorded. In addition, notes were recorded on a flip-chart for a more complete record of the ‘results’ from the various discussions. Respondents also completed a personal evaluation sheet on which they recorded high points and low points of their involvement with the group and answered key process questions. The proforma for this evaluation appears as Appendix 4. All the data sources from each focus group were then compiled to provide an extensive record of proceedings.

External moderators were engaged to facilitate the first two focus groups while I assisted and observed the events and discussions. It was important to have a facilitator who was someone other than myself to expertly guide and direct it. I did not want to be seen as ‘an expert’ in this setting, and preferred to take notes and observe the interaction. Before the focus group, I provided each moderator with as much detail as possible about the aims and method of each section of the focus group and an overview of potential issues which may arise. The moderators chosen were both skilled in small group dynamics and each had an environmental background from which to draw specialist knowledge where necessary. I facilitated the last focus group. While attempting to remain outside the topic of the discussion I ensured that the research process was similar to the other two focus groups. I was assisted by an observer who took extensive notes.

Each focus group was divided into three sections. The first was an evaluation exercise combining both group discussion and individual responses to questions about the work of the group and of government involvement in the group. The second section was an exercise in prioritising responses to four questions which had already been asked and analysed from the interviews. The third section was an open discussion into any aspect of group function the group felt warranted attention. It was a ‘focus group’ in the sense that group members focussed on issues of
significance to them — I did not determine which issues were to be discussed or influence the direction of the discussion at any stage. Visual aids such as indelible markers, coloured stickers and flip-chart paper were used to help direct attention to the task at hand. The focus group format is detailed in Box 3.3.

**Box 3.3: Example of the focus group format**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.30</td>
<td>Introductions and welcome</td>
</tr>
<tr>
<td>5.35</td>
<td>Evaluations — of group process</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>— of government process</td>
</tr>
<tr>
<td>6.35</td>
<td>Personal survey sheets</td>
</tr>
<tr>
<td>6.45</td>
<td>Prioritisation of questionnaire data</td>
</tr>
<tr>
<td>7.00</td>
<td>Group discussion</td>
</tr>
<tr>
<td>7.45</td>
<td>Thank you and close</td>
</tr>
</tbody>
</table>

After each session, I discussed my impressions of the research process and general issues arising on the day with the moderators (and assistant in the case of the Mitchell River group). Much of the 'data' from the focus groups were used in a descriptive sense to illustrate specific aspects of group efficiency or effectiveness. The value of this approach lies in its ability to concentrate on issues which receive attention from the majority of respondents and link these ideas with other principles or theories generated by the interviews and from observation.

There are many advantages to using focus groups. The interaction of participants with each other is particularly beneficial and obviously unobtainable when conducting personal interviews. Krueger (1988) has summarised the advantages of focus groups and concludes that the focus group is a good qualitative research technique capable of operating within natural settings. Moreover, focus groups are flexible and offer fast results while remaining relatively inexpensive compared to one:one interviews. The disadvantages of focus groups include the difficulty of data analysis, need for skilled facilitators and differences from group to group. I encountered some of these disadvantages in the first focus group conducted with
Water Watchers group members. Only six group members attended the session. Consequently there were too few participants remaining after a conflict escalated within the group which resulted in two participants leaving. In contrast, focus groups with the Downside Landcare group and the Mitchell River group ran relatively smoothly. For all three case studies, the focus groups contributed much in the way of relevant information and data to the topic under investigation.

3.6.3 Observation

Through participant observation, it is possible to describe what goes on, who or what is involved, when and where things happen, how they occur, and why ... things happen as they do in particular situations. The methodology of participant observation is exceptional for studying processes, relationships among people and events, the organisation of people and events, continuities over time, and patterns, as well as the immediate sociocultural contexts in which human existence unfolds... Participant observation is especially appropriate for exploratory studies, descriptive studies, and studies aimed at generating theoretical interpretations (Jorgensen 1989:12–13).

Observations of each of the community groups were made whenever I had the opportunity of interacting with members. This occurred quite frequently on an informal basis and formally during meetings and field activities. This technique placed me in the role of an observer who was known to the group and who was interested in 'sitting in' on meetings and other group gatherings to see what sort of activities the group was involved in. This differed from participant observation in that I did not ever place myself inside the groups' experiences. Nor did I spend a lot of time in any one place to which I returned on a regular basis, as with more formal participant observation techniques borrowed from anthropology. As Lincoln and Guba (1985:274) conclude: 'It is difficult to act as a participant—observer, if only for logistical reasons; that role may best be relegated to an informant who has historically been a part of the local context'. In all three case studies, I considered my role to be one of observer-as-participant, rather than participant-as-observer, complete participant or complete observer (Gold 1969). Observer status allowed me to be party to formal group activities (meetings, field days, bus trips) as well as
informal occasions (barbeques, tennis days, morning teas) yet I was still regarded as someone doing research, not someone who was staying in the community. More importantly, it provided me with the opportunity to attend community group meetings.

Observing informal interactions provided me with ample opportunities to talk to individuals about the group in a more relaxed style and presented occasions in which to gain another perspective and opinion about certain events. For example, when staying in a hostel managed by the Kowanyama Aboriginal Community Council as part of my study of the Mitchell River Watershed Management Working Group, I went fishing with a group of Kokoberra elders. This outing presented me with a different perspective of the country and culture of that part of the catchment. On another occasion, I visited a gold mine in the middle of the catchment. That opportunity gave me further insights into the culture of the area. But, perhaps the best chances for observation in the Mitchell River case study were gained when travelling between destinations at times when I was accompanied by an associate of the group. Twice, I flew over the watershed which afforded me the opportunity of appreciating the diversity and beauty of the country as well as the huge distances between the east and west boundaries. When accompanying someone who was driving the length of the watershed, I gained a first hand impression of the landscape as well as a guided tour of land degradation problems from an insider’s perspective.

The same kinds of opportunities for observation were offered in both the other case study community groups. These experiences afforded me a special insight into the communities under analysis which allowed me to get to know group members better and become a part of life in the community, albeit for a relatively short time. While on fieldwork I was readily accepted into each community and indeed have formed close personal friendships with some group members. The development of this level of rapport was important for this study, however due to the brevity of each bout of fieldwork (6 weeks) and the distance from Canberra, at no time were there ever likely to be problems of ‘over-rapport’ of the kind elaborated by Miller (1969).
3.6.4 Demographic survey

Demographic survey forms were completed by 49 respondents, 36 of whom were members of the three case study community groups. The remaining 13 were community group members from among the potential case study community groups interviewed during the preparatory trips. All respondents were non-government members of community groups and completed the form after the interview was conducted. The survey was designed to provide a summary of demographic characteristics describing a member of an environmental community group. It is quantitative information and was analysed to present the typical profile of someone living in that specific rural area. Much of this profile was used in a descriptive sense to determine demographic differences between those people who belong to environmental community groups and those who do not belong. A summary of demographic data appears as Table 4.4 in Chapter 4.

3.6.5 Secondary sources

Socioeconomic, biophysical, historical and cultural characteristics of each community studied were compiled as secondary data. The source of this data was often the local shire council or state agencies with documented reports of the area. However, there were several occasions in which I conducted interviews with older people in each community to gain a first hand historical perspective. With each study, secondary data collection became increasingly thorough. For the last case study I collected information on: climate, hydrology, geology and soils, vegetation, fauna, national heritage, conservation estate, industrial profiles and historically/culturally significant events. All this information was used to provide a case study context in which the community group operated. This information is listed in Appendix 5 for each community group studied.

3.7 Data analysis

The aim of data analysis is to find meaning in the information collected. Data analysis is the process of systematically arranging and presenting information in order to search for ideas (Minichiello et al 1990:285).
It is important here to pause and reconsider the nature of the exploratory research conducted. My aim was to understand and explore the world of the community group and the principles by which it undertakes sustainable environmental management. Therefore when analysing the data it was important that attention be paid to the meanings constructed by the case study informants. To do this required a data analysis method which is ‘grounded’ in, true to, and makes sense of, the everyday lives of informants (Glaser and Strauss 1967) — grounded theory is elaborated further in Section 3.8. However, the research was not limited by the data collected. Rather, it formed a base from which to think about, abstract from, and intuitively develop, ideas. It was important that this level of abstraction took place on site, in the communities with whom I was working, not back at the university. Wicker explains:

> Researchers must be open to insights from a wide range of sources, including their intuitions as well as established and exploratory research strategies... Researchers must continually look beyond what has been recorded in search of the dynamic, underlying processes that have produced the outcroppings they have captured (Wicker 1989:539).

‘The simultaneous study of individuals and the group refers to the similarity an differences of process at each level’ (Kenny and La Voie 1985:340). In attempting to understand the dynamics within each group, these ‘underlying processes’ required an individual perspective. Although the unit of analysis was the community group as specified in Chapter 1, of necessity I also spoke to, interviewed and observed individuals within and across each community group. It was not my intention to separate individual and group effects when analysing the data from each case study. Formal statistical separation of the effects from different levels of analysis can only occur when groups are formed randomly (Kenny and La Voie 1985). Since the groups were not formed randomly, I was not primarily interested in statistical analysis and I was not analysing community groups within a purely psychological disciplinary base, this study moves between the individual and group levels of analysis.
Data analysis was based on an inductive approach which allowed ideas to be shaped and formed during the research process. By constructing a logical system of categorisation, I developed a descriptive framework which systematically organised each case study into a profile, the process and products (or outcomes) of both community and governmental approaches to sustainable environmental management. Within this structure the primary data were analysed according to whether the data had been collected as part of an interview, focus group evaluation sheet or fieldwork observation. Secondary data were used primarily in compiling the context in which each community group operated and were not subject to the same level of analysis. The most significant part of the primary data collected was the interviews.

3.7.1 Analysing interviews

When first returning from fieldwork from each case study trip, the interview guides were photocopied and typed, two methods of ensuring that the 'data' contained therein were not lost. From the photocopied sheets, each question was content analysed systematically by colour coding types of responses, cutting them out and gluing them into new categories. This process ensured that I was quite familiar with coding the data which allowed me to discover themes emerging from the information collected. The unit of analysis for each interview was a statement usually expressed by the respondent in one sentence and differentiated from the adjoining text by a new line. Rather than attempt to explain this further, it is more easily understood visually (Box 3.4).

For each question, like and unlike responses were differentiated first. For example in the question in Box 3.4, all biophysical responses were classified together; trees dying, water tables rising, salt becoming an issue, catchment degeneration. The other responses were classified later according to codes developed during the content analysis. Before gluing them into their final categories, I was able to move the responses around to make sure they clearly fitted, and to make sure that there were enough differences between each major category. This first level of analysis was conducted immediately after returning from fieldwork for each case study. The second stage of analysis took place once I had developed a good overview of the data using the photocopied interview guides. This was greatly assisted with the use
of a computer-based text retrieval program (ISYS) to help find strings of concepts or issues from the database of typed interviews. However, I could not have done this from the outset because any computer-based qualitative research tool is simply that—a tool for organising the data. If I had not already familiarised myself with the content of each interview and did not have firmly constructed notions of what to look for in the data, I would not have been able to use such a sophisticated technique.

The use of this computer package greatly reduced the amount of time spent searching for specific quotes and examples in the data. To assist the search, each typed interview guide was saved as a computer file and named according to the interviewee’s surname. It also included a file suffix which enabled me to differentiate between each case study and across the different categories of respondent. For example: smith.mrg was Smith of the Mitchell River case study who was a government officer; brown.wwn was Brown of the Water Watchers case study who was classified as a non-member of the group and green.dsm was Green, a
member of the Downside Landcare Group. When finding responses to certain questions, it was a relatively simple matter to delineate the extent of the search just to all Water Watchers responses, or all non-members responses, for example. Thus I was able to print responses under analysis into their nine categories (members, non-members and government officers of the Water Watchers group, Downside Landcare group and Mitchell River groups respectively) and a second content analysis was conducted using the codes developed in stage one. Hence the codes developed were not generated before the data were collected as a kind of 'prefabricated list', they represent codes-in-use as advocated by practitioners of grounded theory (Miles and Huberman 1984).

Thirdly, categories were collapsed and restructured where necessary on the basis of the number of responses in each classification to give the final analysis. The central point with regard to the analysis of these semi-structured interviews lies not in counting the number of responses (although this forms an important part of the data analysis in Chapters 4, 5 and 6), but in the multiplicity of perspectives and in building a rich overview of the topic under discussion. ‘Although words may be more unwieldy than numbers... they render more meaning than numbers alone, and should be hung onto throughout the data analysis’ (Miles and Huberman 1984:54).

3.7.2 Analysing focus groups

Focus group material was analysed in several different ways. The evaluation section was already organised such that marks indicating effectiveness and efficiency of group process and government policy were easily transcribed and compared across the three other groups (see Chapters 5 and 6). The prioritisation section was likewise organised for ease of analysis. Four key questions were ranked in order of importance by focus group members and later compared with responses from the other groups. The discussion was both tape-recorded and transcribed. In addition, I would take verbatim notes during the discussion (or have the assistant take down notes for the last focus group session). These notes were used as supplementary material when conducting the content analysis described above to decide on key themes and conditions within each group.
3.7.3 Analysing participant observation

A folio of field notes, minutes of meetings, photographs taken and any supplementary material to be used as a secondary data source were compiled for each case study. This material formed a valuable source of information about the group in question. These data were analysed after the other primary data collected and with the insights already gained from the interviews and focus groups. At this stage, I tended to make general statements and inductions about the nature of the information under analysis. Certain ideas and themes were distilled from the participant observation data and set alongside the other primary data to provide a good overview of the case in question. When this point was realised, it marked the conclusion of data analysis and the start of writing.

3.7.4 Analysing demographic surveys

The demographic survey was the research tool used to establish who joins community groups. Demographic surveys were completed by each member of the case study groups and several other community group members who were not part of the three case studies in question. The survey was relatively simple, and consequently the data analysis was not difficult. Due to the small numbers of surveys analysed and their relative unimportance compared with other forms of data, a statistical package was not necessary in order to conduct the analysis. Instead, I counted means and medians in the data and took special note of the types of community groups to which surveyed individuals belonged.

3.8 Grounded theory

Grounded theory is based on the systematic generating of theory from data, that itself is systematically obtained from social research (Glaser 1978:2).

Grounded theory is just what its name implies — theory which is grounded in the subject matter or data under analysis based on inductive research using mainly qualitative research methods (Glaser and Strauss 1967). In a sense it is also a research method given that it must generate categories of data which fit the ideas arising therein and it must follow standard procedures for ensuring that the data are
both valid and reliable (Glaser and Strauss 1967; Glaser 1978). In essence it is both a method or approach to data collection and an explanation of what is constructed from it on the basis of the data collected.

Grounded theory is at the other end of the research spectrum from logico—deductive theory in that it relies more on inductive science than deductive science, and more on synthesis of ideas, observations and raw data, than on analysis of that data compared to pre-existing theory and belief. However, it would be naive to think that a researcher can go into ‘the field’ with an open slate, few predetermined ideas and remain completely open and sensitive to the topic and subjects of research. As established earlier, I already had a history of interaction with community groups, and some pre-existing ideas about what community development practice entailed. On reflection, it seemed essential to maintain a balanced research perspective between allowing the data ‘to speak for itself’ whilst being open to other peoples’ ideas and theories about the phenomenon at hand. In this sense, qualitative research is never completely old or new paradigm, inductive or deductive and does not conform with any other system of polarisation. Instead, in the way that the research unfolded in this study, there was a constant dialectic between researcher and researched. Data were analysed, ideas generated to account for the analysis and theory consulted to substantiate or ‘disprove’ the argument presented. The body of theory consulted then affected further analysis and interpretation such that there was never a simple cause and effect relationship between the theory, data, analysis, research stance and the consistency or clarity of argument. As stated over 60 years ago:

I am not sure but that methodology is a little like religion. It is something we need every day, something we are irresistibly impelled to talk and think about, but regarding which we never seem to reach a definite conclusion (Cooley 1930 cited in Feagin, Orum and Sjoberg 1991).

3.9 Limitations of the methodology

In allowing themes or principles to emerge from the data, there were a number of academic hurdles to face. One of the biggest limitations to the research
methodology was the enormity of data collected and the time it took to code and analyse the huge amount of interview material collected. Since each case study was analysed separately, it was necessary to undertake the entire analysis over again before 'writing up' to ensure some degree of conformity of code generation between cases. As Miles and Huberman warn: 'this means more overall coding time, and longer uncertainty about the coherence of the coding frame' (Miles and Huberman 1984:57). Analysis of these data was finely tuned over a period of months and required assistance in order to maintain a standard of interpretation which 'steer[ed] between over-interpretation and under-interpretation, reading more into things than reason permits and less into them than it demands' (Geertz 1983:16). The size of the database required a computer-based text retrieval program simply in order to find word strings among the thousands of statements made by the 89 interviewees. Over time and with increased familiarity with the data, I was struck by the strength and elegance of first hand citations which supported the arguments developed.

Upon completion of the fieldwork component of this research, it became apparent that greater attention to the role of government officers was warranted. As well as having community-based focus groups, there should also have been focus groups with relevant government officers. This was a limitation which raises questions about the level of my appreciation for the concerns and problems of government agencies. However, it was never my intention to detail government involvement in environmental management to the same extent as that of the community groups which were my primary focus.

A greater effort devoted to the demographic survey of community group respondents may have yielded more useful results. There were several limitations of the demographic survey. The first problem concerned the question of 'What is your total annual family income before tax?' Although the question was a standard one and it was not mandatory, it did not get at the real question I wanted answered since it did not take into consideration the amount of tax deductions from gross family income. For farmers this was particularly relevant. Although several interviewees reported making $100,000 per annum — without also knowing how much of that was used to pay debts and deductions, there was no way of comparing 'real' income...
with that of the statistical Australian rural average. Hence this question was reported on but not used extensively for comparative purposes (see Chapter 4).

The second main problem with the survey was simply that there were insufficient responses to make this a valid and reliable tool in order to understand what types of people join community groups. If more attention had been given to ensuring a greater response rate, I may have had more complete results. However, as it turned out, the responses are indicative of each of the communities sampled, but do not have any wider relevance than that. The demographic survey merely reassures the reader that characteristics of group membership in each case study was not, in any startling way, different from demographic characteristics of other populations in their community (Appendix 5 provides details about socio-economic profiles of each case study area). While the survey provides an overview of the three groups under analysis in this study, a more complete sample could have provided the basis for generalisation about the demographic characteristics of environmental stewardship group membership. Unfortunately, time restrictions necessitated that I concentrate on the qualitative side of the study at the expense of developing a greater quantitative understanding of the demographic make-up of community groups. Certainly, more attention to demographic considerations in developing membership profiles should provide a basis for interesting future research in this field.

3.10 Summary

This research draws from a range of methodologies embedded within different disciplines and different epistemological positions. Shared with action research studies is a concern for experiential learning and the cycle of planning, acting, observing and reflecting (Bawden 1991a). After each bout of fieldwork, I would reflect on the observations I had made and strengthen the design before tackling the next case study. However, unlike action research, this study was not a collaborative project designed with full participation from each of the case study communities. Nor were the data gathered by the participants themselves, although I did attempt to suspend the traditional hierarchy between researcher and researched.
Shared with critical social theory was a belief in exposing the values, assumptions and ideological position with which I started this project and an inclination to expose the ‘practical intent’ of the research outcomes — not to treat all problems as technical problems based on instrumental rationality (Marcuse 1968; Carr and Kemmis 1986). However, unlike the Frankfurt School of critical theorists, I am not embarking on a project which ‘seeks to transform the self-consciousness of individuals so as to make it possible for them to collectively determine the sort of life they wish to live’ (Carr and Kemmis 1986:23).

Shared with constructivist theories was a concern that interpretivist methods promote understanding of the profile, process and principles of community-based environmental management (Robertson 1994). However, unlike the ‘process-product’ researchers of positivist persuasion, this research does not attempt ‘to discover through intensive analysis and experimentation, relationships between specified .. behaviours (processes) and .. outcomes (products)’ (Robertson 1994:22). Instead, principles or constructs of community-based environmental management are derived from my interpretation of the way in which groups act upon local environments and the results of their actions.

The research approach taken is experiential, critical, collaborative, reflexive and transparent. The essence of the methodology is encapsulated in a concern:

To grapple with loosely bounded problems — that is, with almost any problem that connects up with community concerns — we need to blur lines that separate ‘values’ from ‘facts’, ‘humanities’ from ‘sciences’, and ‘quantitative’ from ‘qualitative’ or ‘applied’ from ‘basic’ research (Cronbach 1986:104).
Community groups: profile
Photograph by:  Anna Carr, Centre for Resource and Environmental Studies
Landcare group members at a field day, Harden, NSW.
CHAPTER FOUR — Community groups: profile

The profile of a community group is the logical point at which to construct a better understanding of the way in which community groups work. A definition of the terminology as described both in the literature and by group members lays the foundation for the empirical component of this thesis. This chapter then proceeds to give an overview of the case study community groups under analysis, and a general description of group membership before turning to the data for an analysis of members’ motivation to join; factors restricting members’ involvement; and factors facilitating members’ involvement. The same questions are then analysed for all interviewees, members, non-members and government officers. The question of community group roles in environmental management provides an interesting perspective on the profile of a community group. Finally, the skills and attributes of individuals involved in successful community groups is examined.

4.1 Community groups

Community groups band together in rural Australia in response to common problems and issues as they emerge in local communities. One of the most well known community groups in Australia is the Country Women’s Association which is present at both a national and local scale and has a well-defined political constituency. Another well known rural organisation is that of local bush fire brigades, which operate locally, but have a nationally statuted framework. In the environmental arena, one of the earlier community groups was the Murray Valley League for Conservation and Development, now known as the Murray-Darling Association Inc, still a thriving local environmental group. There are many community groups, formed for different purposes at different societal and geographic scales. In this study, the Mitchell River group operate at a vastly different geographic scale than do the other two groups. The Downside Landcare group are local, but are associated with the hundreds of other landcare groups recognised throughout Australian society. But the Water Watchers group operate locally at both geographic and societal scales. Esman and Uphoff, writing about the importance of rural peoples’ involvement in local organisations state:

(1) such involvement is essential for accomplishing broad-base rural development; (2) eliciting and sustaining such
participation will require some configuration of organisations that are accountable and responsive to their members; (3) the variety of interests and needs among rural people requires a variety of organisations even in the same area; and (4) the particular forms of organisation that are likely to work will vary with specific local experience, the tasks to be performed, and the political–administrative environment (Esman and Uphoff 1984:15.).

The concept of *community group* suffers the same lack of specificity in definition as does the more generic term *community*, defined in Chapter 2. Julia Gardner uses the term environmental non-government organisations (ENGOs) for a ‘citizens’ interest group whose activities include efforts for environmental conservation’ (Gardner 1991a:241).

I agree with her definition but prefer to use the more general term ‘community group’ for my purposes; non-government organisation implies that government has a central role to which everything else is related (Dr Val Brown, Centre for Resource and Environmental Studies, ANU, *pers comm* June 1992). With the advent of sustainable development as a policy tool, community groups are being seen by parts of government bureaucracies as convenient administrative units destined to implement that nebulous goal. Thus *community group* adopts an ambiguous definition and may simultaneously be ‘interpreted as implying both an administrative unit and a social reality’ (Dunbar-Nobes 1992:4). Gardner’s Fraser River basin study further distinguishes between advocacy groups and stewardship groups (Gardner 1991a and b). These two terms describe the ends of a continuum rather than separate categories. The former are more active in lobbying for the environment while the latter have a greater action–protection role to care for some aspect of their environment at the local level. It is the local stewardship group, alias water quality monitoring group, landcare group and catchment management group, which are the subjects of this inquiry.

The diversity inherent in purpose, establishment and expectation of *community groups* was also reflected in the data in response to the question: ‘What is a community group?’ Some respondents defined community groups as segments of
wider society, for example groups of farmers, or graziers. Most, however, gave a general description in terms of the aims and objectives of the group (Box 4.1). But mere definitions of community groups do not explain their core characteristics. Box 4.2 establishes the common attributes of a voluntary or community association.

Box 4.1: Participants' definitions of community group

- A group centred around a common purpose/s.
- All caring, ordinary people — non-selfish, nice people who band together to work, who do things for the community.
- A great thing to keep local people together — in times like now where people go elsewhere for sport/social functions [due to the] good roads etc.
- A group that involves the community — run by the community rather than driven by someone else.
- People in the local community helping each other sharing ideas and resources towards a common goal.

Source: Interviews with group members

Box 4.2: Attributes of a voluntary organisation

- Voluntary participation and flexible membership
- Little internal specialisation, open to restructuring over time
- Membership control over collective affairs
- Loosely organised, non-hierarchical
- Task oriented with flexible task allocation
- Absence of clearly defined rank and status
- Emotional attachment to task
- Limited rules governing behaviour
- Participation is generally limited to a small proportion of an individual's time.
- Membership recruited through common interests
- Action learning/research approach
- Frequently spontaneous and able to respond quickly

Adapted from Weber 1958; Carley and Christie 1992.
4.2 **Overview**

Case studies were completed of three voluntary community groups: Water Watchers (WW), Downside Landcare (DL) and the Mitchell River Watershed Management Working Group, abbreviated to the Mitchell River group (MR). Figure 4.1 shows their location.

![Figure 4.1: Case study locations](image)

Water Watchers began working as a women's group, but grew to encompass both women and men who live and work inland of the industrial area in Kwinana, south of Perth. Members are primarily involved with monitoring phosphate levels in the streams, creeks and drains within the Serpentine Jarrahdale Shire. As an offshoot to
Water Watchers' work, a childrens' group, 'Slug Busters', was also formed to monitor water quality through an environmental education program in five local schools. For the purpose of this analysis, Slug Busters are discussed only when they form a central focus of Water Watchers' activities. Among their many achievements, Water Watchers may have been the first community group to produce water quality data which has subsequently been added to government databases. In Western Australia their efforts toward integrated catchment management have been recognised by two Ministers of Parliament and, more importantly, their work has established a precedent for community and government working together to collect water quality data. The Water Watchers group received a great deal of support and advice from the Community Catchment Centre established and funded by government, and based nearby in Pinjarra; this is detailed further in Chapter 6. Figure 4.2 illustrates the study area in which most of Water Watchers' activities took place.

Figure 4.2: Water Watchers group location
The Downside Landcare group's primary goal was to combat dryland salinity, and in doing so members have also embarked on a more general level of community development. Members have made significant productivity gains through working together and sharing local agricultural knowledge. The Downside group have developed a stewardship ethic for landcaring prefaced on a sense of responsibility for present and future generations. They are proud residents of their district, focusing not simply on solving 'the problem', but also on sharing their achievements and caring for the community. Individuals (evenly divided between men and women) have developed landcare-related skills through involvement with the group, and like Water Watchers, have developed a strong commitment to working alongside government departments. Figure 4.3 illustrates the study area of Downside.

The Mitchell River group are comprised mainly of men, from a vast catchment area in far north Queensland. Their aim is to assist manage the Mitchell River Watershed for the benefit of future generations and to prevent the type of environmental degradation witnessed in other great rivers in that state. As the only voluntary policy forum for catchment management in Queensland, the Mitchell River group are innovative and forward thinking. Despite the huge distances involved and the great divergence of interests, members of the group have stayed together through some quite serious conflicts among members' different ideologies. The group has contributed to community awareness about the health of the river — both as an ecosystem, a culturally significant system and as a source of income for professional fishers, tourism operators, miners and graziers. But perhaps their most important contribution has been achieved through their strength in diversity, their ability to unite cultural, environmental and economic goals through a process of co-management, defined in Chapter 9. Figure 4.4 illustrates the study area for the MR group. As an illustration of the different activities of each case study group, see Table 4.1.

4.3 Profile of group members

Each of the three case study groups attracted a slightly different membership type (Table 4.2). But perhaps more useful than a demographic overview is a detailed
study of each group profile. The ‘members’ profiled are composite pictures of the type of membership of each group, they are not actual descriptions of any individual.

**Water Watchers group**

Membership of the Water Watchers group is typified by married women with children. For example, ‘Robyn’ is in her late 30s and regularly volunteers her time at the local school as well as teaching guitar after school hours. She runs a business with her husband and is concerned about water quality from the perspective of someone who may be directly affected by poor water quality. ‘Linda’ is concerned about the future lives of her children and wants them to grow up in a clean and
healthy environment. She was a professional radiographer, does not attend church or play sport and considers herself 'middle-class'. Both 'Linda' and 'Robyn' worry that not enough people care about water quality. The group is rounded out by 'Buster', an older man near retiring age who owns an organic vegetable growing
business and takes a very hard line on environmental stewardship — not least because he is worried about the effects of agricultural chemicals on his health.

**Downside Landcare group**

Membership of the Downside Landcare group is typified by broad-acre farmers in middle-age. ‘Daisy’ is a farmer in her late 50s, is married to a farmer, and has two adult sons — one of whom still lives at home. She holds many voluntary positions within the district and has a wide variety of interests. She is an elder in the local church where she is well respected and hard working. She does not play sport, has a secondary school education and is well-established financially. ‘Hal’ is optimistic about landcare. Both he and his cousin ‘Marjorie’ are active in the local tennis club and believe that if everyone were to band together in the community, salinity could be beaten. After all, they claim, this land is our land only while in our stewardship and we have to pass it on to our children in a better condition than we found it. To that end, ‘Hal’ and ‘Marjorie’ are also members of the local Society for Growing Australian Plants and are concerned about the number of non-endemic tree species still being planted in the district.

**Mitchell River group**

Membership of the Mitchell River group is almost exclusively men. Typical of their membership is ‘Garry’, a retired shire councillor and grazier. He is in his mid 60s, has moved to town and passed his cattle property over to his son to manage. He is
Table 4.2: Membership profile across all three groups

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<tr>
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<tbody>
<tr>
<td></td>
<td>Male:</td>
<td>Female:</td>
<td></td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td>67%</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>Primary: 4%</td>
<td>Secondary: 58%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cert./Dip: 15%</td>
<td>Bachelor: 16%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post grad. 6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>21–30: 4%</td>
<td>31–40: 29%</td>
<td></td>
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<tr>
<td></td>
<td>41–50: 32%</td>
<td>51–60: 27%</td>
<td></td>
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<tr>
<td></td>
<td>61+: 8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Spouse</strong></td>
<td>Yes: 94%</td>
<td>No: 6%</td>
<td></td>
</tr>
<tr>
<td><strong>Children at home</strong></td>
<td>None: 31%</td>
<td>One: 23%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Two: 21%</td>
<td>Three: 19%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Four: 2%</td>
<td>Five+: 4%</td>
<td></td>
</tr>
<tr>
<td><strong>Household income</strong></td>
<td>less than $25,000: 13.4%</td>
<td>$25,000–45,000: 40.0%</td>
<td>$45,000–65,000: 26.6%</td>
</tr>
<tr>
<td><strong>Attend church</strong></td>
<td>Yes: 37%</td>
<td>No: 63%</td>
<td></td>
</tr>
<tr>
<td><strong>Play sport</strong></td>
<td>Yes: 35%</td>
<td>No: 65%</td>
<td></td>
</tr>
<tr>
<td><strong>Political party membership</strong></td>
<td>Yes: 12%</td>
<td>No: 88%</td>
<td></td>
</tr>
<tr>
<td><strong>Environmental group membership</strong></td>
<td>Yes: 23%</td>
<td>No: 77%</td>
<td></td>
</tr>
<tr>
<td><strong>Other community membership</strong></td>
<td>Yes: 94%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sports or hobby groups 19%</td>
<td>Church or school groups 12%</td>
<td>Environmental or natural history groups 39%</td>
</tr>
</tbody>
</table>

*Source: demographic surveys completed by members only.*
very pro-development and claims that this country needs: more jobs, more population and better services. Like others, he joined the group to make sure that the ‘greenies’ did not take over the debate. He has a secondary school education, enjoys fishing, and doesn’t get to church as often as he would like to. ‘Joseph’ has been involved in National Party politics for 30 years, he owns and manages an eco-tourist operation, regularly attends church and takes a very ‘green’ view of both environmental management and Aboriginal self-determination. ‘Garry’ and ‘Joseph’ do not get along and have been at the forefront of a continuing conflict in the group about development. However, both also believe that the group has prompted them to think and do more about the environment on their own land without the group to support them.

4.3.1 Member involvement

For each group, there were some members who came to every event, and others who came occasionally. There were core members who did most of the work, and fringe members who were involved to a much lesser degree. Some members tended to spend a lot of time initially and that involvement waned over the years as various other members joined, or with the employment of a group facilitator. On several occasions, members indicated that their involvement has increased with new responsibilities and exciting new developments. As one interviewee said: *it could be my sole paid job and take up every hour of the day.* It is important to note that although this person was the chairperson for his group, he was not paid by the group and holds down a full-time position elsewhere in the community.

The following discussion concerns group members only. Responses to the broader question of what motivates people in general to become involved in community groups is analysed in Section 4.4.

4.3.2 Members motivation to join

Members were specifically asked: ‘Why did you become involved in this group? What motivated you to join?’ Typical of the responses in each of the categories were the following responses paraphrased from the original quotes:
Concern with a problem: care for country, desire for change, prevent further degradation, frustration and dissatisfaction, interest in landcare (water quality monitoring, catchment management), love of the land.

Sense of community: district pride, social interaction, community cohesion, involvement and belonging, escape from routine, satisfaction and enjoyment, desire to participate, avoid loneliness.

Self-interest: access to financial grants, prestige, personal aspirations, prevent loss of personal advantage, NIMBY, issue affects the individual personally.

Power of the group: good leadership, peer pressure, being asked to join, to have influence over others, for effective consultation, membership seems attractive or positive, group is well organised, group action is more effective than individual action.

Altruism: civic duty, commitment to an ideal or cause, able to contribute, for moral or ethical reasons, saving the world, being a good citizen, seeking a global perspective, making a local contribution.

Learning information/skills: exchanging ideas, gaining information, learning new skills, access to educational opportunities, gaining knowledge.

Miscellaneous: being told to represent someone, voluntary office work, 'because it is right up my alley' attempting to resolve conflict, to stonewall the group, to be non-cooperative, for religious or spiritual reasons.

Responses to this question are presented in Figure 4.5. Please note that in each of the figures of this type in Chapters 4, 5 and 6, the number of responses exceeds the number of respondents — because each interviewee made more than one response to most questions. The number of respondents and responses is indicated at the bottom of each figure. The scale for each figure in Chapter 4 indicates numbers of responses.
4.3.3 **Factors restricting members' involvement**

On the other hand, there were a number of important factors which limited members' involvement with the group (Box 4.5). By far the most important factor which restricted all group members' involvement was time. This included attending to family, work and other commitments. When pressed to answer where that time was taken from, respondents gave equal weighting to time taken from work (including farmwork, housework, businesses and paid employment) and time taken from home and family commitments (including personal hobbies and leisure time). Several respondents indicated that time spent in this group would adversely affect time spent in other community groups. It is interesting to note that while Downside Landcare group members gave equal weight to both work and family commitments, the Mitchell River group members' responses indicated that they took a lot of time from work, and much less time from home and family. This is linked to the type of government membership of the Mitchell River group and is explained in Chapter 6. Members of the Water Watchers group, on the other hand, took most time away from home and family commitments and much less from work or business interests.
Of secondary importance was the perception by some members, especially in the Downside Landcare group, that they had limited knowledge or understanding of scientific and technical matters: *I don't really know a lot about all that [landcare] stuff, but I help out a lot. I get most of my knowledge from Barb's newsletter — guest speakers bring pamphlets but I don't chase up the Department of Agriculture, I'm not into it as much as Max growing all these trees*. Interestingly, when pressed to determine where members gained their skills, four key trends emerged. Downside Landcare group members especially learned a range of skills (secretarial, tree-planting, water quality testing, financial, meeting procedures, etc) from involvement with community groups, either before becoming involved with this group, or as a result of involvement with this group. A second trend was that many members had no special skills and learned as they went along, developing the self-confidence to ask questions and 'learn-by-doing'. This trend emerged across all three community groups. Thirdly, members reported learning skills or gaining knowledge from formal education systems and universities. This was highlighted in the Water Watchers group, where a higher percentage of members had attended post-secondary educational institutions. Learning from formal education systems was completely absent in the Downside Landcare group's responses to this question, and only mentioned twice in the Mitchell River group. Lastly, members of the Downside and Water Watchers groups reported learning skills relating to group activity from previous work experience, especially practical skills, on farms, in the case of Downside.
Another point restricting members' involvement in their group, raised only by members of the Mitchell River group, was that distance and the location of meetings acted to decrease involvement because of the time and money it takes to get to some meetings. Miscellaneous responses indicated by a minority of members included: women members feeling discriminated against by 'men's talk' (one woman specified that she felt excluded by the male committee experience) or that unresolved group conflict had limited some members' involvement.

4.3.4 Factors facilitating members' involvement

Despite the restricting factors discussed above, many members reported that these were minor limitations compared to the factors which made it easier to be involved in the group. Box 4.6 illustrates the range of responses to the question: 'Does anything make it easier for you to be involved with the X group? What?' As with Section 4.3.3, I did not prepare a chart to represent these findings due to the relatively limited number of overall responses (81) to this question.

Box 4.6: Factors facilitating group members' involvement

- Knowing, liking and fitting in with the group
- Meeting and working locally
- Having identified group goals, funding, meetings
- Having time available for a worthwhile project
- Having supportive government institutions
- Having good leadership and coordination
- Gaining and maintaining skills and knowledge
- Satisfaction of achieving results

Source: interviews with group members

The first factor appearing on the list in Box 4.6 was by far the most common response. All other categories of response attracted 5–8 responses, however, knowing, liking or fitting-in with the group attracted 16 responses, a large proportion of which were from the Downside Landcare group. Several specific responses from this group stood out in relation to this question: the advertising on TV shows you how widespread the [landcare] movement is, and when you see how
recognised it is [and] you see we’ve got one in our little area — it makes you proud. While the government is supporting landcare — you’re backing a winner! Somebody else praised the efforts of some government agencies who were: very forthcoming with information, when they come forward to help, information does not have to be extracted [and] you don’t have to drag it out of them.

### 4.4 General group profile

There were two general interview questions asked of all interviewees: members, non-members and government officers. The following section discusses these more general questions of involvement in community groups.

#### 4.4.1 General motivation to join

When asked: ‘In general, what do you think motivates people to join community groups?’ responses ranged from: *it is something to do, or out of a will to leave the country for future generations, to social interaction.* Generally, non-members had a far narrower range of responses than either members or government officers. The most frequent responses to this question are illustrated in Figure 4.6.

Note the interesting discrepancy between the more general reasons people gave in answer to this question, and the specific answers provided by group members in relation to their own reasons for joining (Figure 4.5). These specific reasons are confirmed by Canadian academics and activists interested in stewardship and voluntarism outlined in Lerner’s edited work *Environmental stewardship: studies in active earthkeeping* (1993). Liza Ordubegian’s (1993) research into the motivations, satisfaction and rewards for volunteers working on the Ontario Breeding Bird Atlas confirms that involvement in community-based environmental groups is often due to a range of motivating factors including a sense of purpose, duty, commitment, having time available, learning new skills, meeting new people, personal and global welfare or for enjoyment and fun. What motivates people to become involved in community groups is complex and cannot be simplified to issues of either the outcome or the process of involvement. Simple dichotomies based only on ‘good citizenship — altruism’ or ‘material benefit — self-interest’ models miss the
Figure 4.6: General motivation for involvement — all interviewees

Across community groups

Across membership types

Respondents = 85, responses = 514
subtleties and complexity of reasons for public involvement (Syme, MacPherson and Seligman 1990).

To add another layer of complexity to this question of motivation for involvement, the focus groups’ answers were also different. In the focus group, questions which had been previously analysed from interviews already held with group members, were prioritised by individual participants. Individual rankings were then collapsed with other group members’ rankings to provide an overall rank order of importance of motivations to join. Table 4.3 reflects the diversity of response across all three groups.

Table 4.3: Motivation for involvement in rank order

<table>
<thead>
<tr>
<th>Water Watchers</th>
<th>Downside Landcare</th>
<th>Mitchell River</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Concern with a problem</td>
<td>1 Concern with a problem</td>
<td>1 Concern with a problem</td>
</tr>
<tr>
<td>2 Power of the group</td>
<td>2 To learn</td>
<td>2 Altruism</td>
</tr>
<tr>
<td>3 Involvement and belonging</td>
<td>3 To exchange ideas and information</td>
<td>3 To care for the country</td>
</tr>
<tr>
<td>4 Altruism</td>
<td>4 Self-interest</td>
<td>4 To have a say</td>
</tr>
<tr>
<td>5 Self-interest</td>
<td>5 Altruism</td>
<td>5 Power of the group</td>
</tr>
<tr>
<td>6 Social interaction</td>
<td>6 Social interaction</td>
<td></td>
</tr>
</tbody>
</table>

Source: focus group exercise

It seems that there is a discrepancy between the general reasons people ascribe to others joining a community group, and the specific reasons they give for joining themselves. There also seems to be a contradiction between motivations elicited in individual interviews and the agreed focus group priorities. The differences may be discontinuous, but are not conflicting in my opinion — merely different in different contexts. When interviewed individually, people are less likely to feel intimidated by others’ answers and are more likely to be frank. In a group, there may be considerable pressure to conform with the perceived leader’s ideas. This may
explain the difference between the more general first question and its ranking in the focus group sessions. However, there are some other interesting points which should be noted about factors affecting individuals’ motivation to join a community group. The first reason given across all three groups coincides very clearly with recent research into environmental stewardship groups (Lerner and Jackson 1993; Ordubegian 1993):

The question of why people volunteer their time and effort in countless activities has long intrigued social analysts. The generally accepted answer is that they do so for a constellation of reasons that include personal growth, social enjoyment and the desire to be of benefit to society (Lerner and Jackson 1993:395).

Motivation to join stewardship groups in particular (as compared to community groups in general) affirms that individuals join these groups when they perceive some personal threat to their survival, for example with the threat of salinisation affecting the Downside community or the survival of future generations affecting the Water Watchers and Mitchell River groups’ motivations. In addition, motivation to join and continue to be involved in group activity changes over time as individual circumstances change, and with further involvement in and construction of ongoing relationships with other members. This phenomenon was spoken of in many interviews and commonly observed while on fieldwork.

4.4.2 General restricting factors

Figure 4.7 illustrates general responses to the question: ‘Conversely, what do you think makes it difficult for local people to be involved in community groups? What are the restricting factors?’

One of the least surprising trends was noted under the category of ‘over-commitment’. This category included responses such as; lack of time, work and family commitments and lack of energy or burnout. It represents a typical picture of restrictions to voluntarism, but also raises an important point concerning the role of
Figure 4.7: Factors restricting involvement in community groups — all interviewees

Across community groups

<table>
<thead>
<tr>
<th>Factor</th>
<th>WW</th>
<th>DL</th>
<th>MR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over-commitment</td>
<td>38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of skills/resources</td>
<td>42</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>Self-interest/no SoC</td>
<td>39</td>
<td>44</td>
<td>34</td>
</tr>
<tr>
<td>Group process/cliques</td>
<td>40</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td>No awareness of group/issue</td>
<td>28</td>
<td>20</td>
<td>39</td>
</tr>
<tr>
<td>Logistics</td>
<td>20</td>
<td>21</td>
<td>20</td>
</tr>
</tbody>
</table>

Number of responses

Across membership types

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mem</th>
<th>Non-mem</th>
<th>Gov't</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over-commitment</td>
<td>46</td>
<td>38</td>
<td>56</td>
</tr>
<tr>
<td>Lack of skills/resources</td>
<td>48</td>
<td>11</td>
<td>67</td>
</tr>
<tr>
<td>Self-interest/no SoC</td>
<td>38</td>
<td>3</td>
<td>35</td>
</tr>
<tr>
<td>Group process/cliques</td>
<td>47</td>
<td>4</td>
<td>69</td>
</tr>
<tr>
<td>No awareness of group/issue</td>
<td>27</td>
<td>25</td>
<td>35</td>
</tr>
<tr>
<td>Logistics</td>
<td>25</td>
<td>25</td>
<td>20</td>
</tr>
</tbody>
</table>

Number of responses

Respondents = 86, responses = 641
environmental community groups in Australia. Referring back to the comments made in Chapter 2, are ‘we’ expecting ‘them’ to do too much?

There are some more interesting trends emerging from a comparison of restricting factors across the three case study groups. Referring to Figure 4.7, it is obvious that the Mitchell River group, which encountered the most problems with distance and isolation, would outscore the other two groups in the logistics category. However, the Water Watchers group also scored highly here with such logistical restrictions as lack of a telephone, lack of access to transport and lack of childcare facilities. These restrictions are quite important for a women’s group monitoring water quality on the outskirts of a large city and raise the issue of whether more people would have become involved with Water Watchers if only they had access to a telephone, a car and adequate childcare services.

Figure 4.7 also establishes that there are not as many differences in the number of restrictions across the case studies compared with the same number across membership types. The Mitchell River group did not experience over-commitment to the same extent as did the other two groups. Nor did Mitchell River group interviewees understand the issue or goals of the group to the same extent as did interviewees in the other two groups, probably as a result of the constraints and logistical difficulties presented by isolation and distance. Lastly, restricting factors relating to group process such as discomfort with the group size or cliquiness and conflicts in the group featured more prominently in the Downside Landcare group who functioned far more cohesively compared with either of the other groups. Therefore, conflicts, leadership problems or elitism in the group process were more likely to be reported as restricting factors when compared with the other groups.

It is interesting to note differences in the answers provided by group members and non-members compared to government officers in Figure 4.7. The factors government officers perceive as restrictions for involvement in community groups differ to the restricting factors that members and non-members identified. Government officers were more likely to consider that local people would have less time available for community groups and more commitments than were members or
non-members. This may not be an important distinction on the surface, but it may be that government officers are referring to themselves and their increasing lack of time for involvement in community group activities. Government officers are also shown far more likely to judge group process and the cliquishness in groups as restricting factors compared to members or non-members. Timing, structure and frequency of meetings as well as cliquishness, leadership problems, personality conflicts and discomfort in groups were all considered part of the category — group processes. I believe this difference in perception reflects the increasing insecurity in government officers who, until recently, believed it was their job to assist community groups with technical environmental problems. Now that groups are becoming more active without help from these traditional authorities, some extension scientists and government bureaucrats are feeling uncomfortable with the whole notion of facilitation of group dynamics.

4.5 The role of community groups in environmental management

The question 'What roles do community groups play in managing the environment?' attracted 575 responses and was asked of all interviewees. The data were classified into 12 different categories and illustrate the major and minor roles that community groups play in environmental management. However, these major and minor roles are not so much reflections of a split in the strength of the data as an assessment of the criticality of the response. Major roles are about responses which describe what role community groups have in environmental management, minor roles describe how it should be conducted. Before these differences can be easily understood, it is important to clarify the categorisations used to distinguish between these roles.

4.5.1 Major roles

Problematising: awareness and recognition of the problem, identifying an issue, defining goals and activities, problem-solving, being a catalyst for change.

Local knowledge/education: providing a means for schools' involvement, environmental education, source of community social and biophysical education.
Information/skills bank: information exchange, skills exchange, information source, focal point for collection of expertise, information collection and dissemination.

Advocacy: vehicle for expression of community needs, wants, reflection of ideals and communication of those ideals and actions to government, lobbying.

Administration: being cost-efficient, raising money, managing projects, facilitating consultation by other groups, providing a voluntary labour source.

Stewardship: active environmental maintenance and protection, practical hands-on work, taking environmental responsibility, future environmental protection.

4.5.2 Minor roles

Community cohesion: working together for the common good, toward common goals, implies collectivity.

Power of the group: collective action is greater than individual action, diversity of membership skills and resources, beyond the individual approach.

Partnership: networking, mediating between agencies and individuals, contact-sharing, acting in a liaison capacity.

Watchdog: alerting others to potential or existing environmental problems, being responsive, acting fast.

Social influence: peer pressure, influencing others within the group, setting up in-group norms and behaviour.

Involvement and participation: encouraging involvement and participation within the wider community, acting as a catalyst for involvement, providing an example.
The differences between major and minor roles across all three community groups and across the different membership types are illustrated in Figure 4.8a and Figure 4.8b respectively. Some general trends quickly emerge from even a cursory glance at the data. Problematising is the most frequent of the major roles identified by each of the community groups. It includes both awareness and recognition of the problem or issue to be addressed by the group, as well as the preparedness to tackle the problem by setting goals and strategies to manage it. Next most frequent were the roles for stewardship and local knowledge, thereby reinforcing the finding that these community groups are primarily stewardship as opposed to advocacy groups, as noted above. Gardner further defines these groups as providing a supplemental role to government activity in environmental management:

The focus here is not political but practical — a 'do it yourself' approach that includes servicing the needs of ... members as well as efforts to protect the environment (Gardner 1993:28).

The three community groups differ quite markedly in their apparent interpretation of this supplemental role (Figure 4.8a). Water Watchers is clearly concerned with community participation in water quality monitoring since the group can influence the community more effectively than individual members can. They are also strong supporters of the stewardship role, but weak when it comes to pooling information and skills. Water Watchers is keen to identify the problem, to act on the problem and to provide the catalyst for others to get involved. The Downside Landcare group, on the other hand, do not stand out strongly in any of the major roles identified. If anything, they are rather weaker than the other two groups in identifying major roles, except when it comes to stewardship. However, they identify more of the minor roles played by community groups — primarily in terms of community cohesion, social influence and the power of the group. The Downside Landcare group underscore the importance of adhering to the principles of sense of community and sense of place, discussed at length in Chapter 7.

Lastly, the Mitchell River group, more so than the other two, identifies a role for local knowledge and education, as well as the provision of information and skills.
Figure 4.8a: Roles for community groups in environmental management — across community groups

**Across community groups**

**Major roles**

- Problematising
- Local knowledge/education
- Information/skills bank
- Advocacy
- Administrative
- Stewardship

**Minor roles**

- Power of the group
- Partnership
- Watchdog
- Social influence
- Community cohesion
- Involvement and participation

Respondents = 85, responses = 575
Figure 4.8b: Roles for community groups in environmental management — across membership types

Across membership types

Major roles

- **Problematising**
- **Local knowledge/education**
- **Information/skills bank**
- **Advocacy**
- **Administrative**
- **Stewardship**

Minor roles

- **Power of the group**
- **Partnership**
- **Watchdog**
- **Social influence**
- **Community cohesion**
- **Involvement and participation**

Respondents = 85, responses = 575
This also reflects a concern with sense of place and the isolation in which the Mitchell River group's work takes place. In terms of minor roles, their response is noticeably less marked than the other two groups', being most obvious when it comes to the power of the group. Perhaps the legend of the rugged individualist is still alive and well in Cape York and responsible for this lack of attachment to group processes. It may also have to do with the conflicts apparent across the group, discussed further in Chapter 5.

The differences in community group roles across membership types are also interesting to note (Figure 4.8b). Non-members generally did not respond as often as did members or government officers in either major or minor role categories. When comparing members and government officers' responses within the minor roles, interesting differences are noted across the categories of community cohesion, the power of the group, partnership and watchdog. The first two categories in this list clearly indicate that members of community groups pay more attention to these more social functions than do government officers. However, government officers believe that the partnership and watchdog roles are more pertinent to environmental management than did members of community groups.

Lastly, there were some interesting responses that are not recorded in the figure. Many respondents noted that the roles played by community groups in environmental management are important. Other respondents pointed out roles for planning, publicity and research which did not attract sufficient responses to warrant inclusion. Although in the minority, some miscellaneous responses proved very interesting. One respondent reported that community groups played a role which incorporated an holistic approach to environmental management. Several others spoke of groups being able to bring a different perspective to local environmental problems compared to the standard bureaucratic approach. Then there were those responses which indicated a negative attitude to community groups undertaking environmental management activities. One respondent reported that community groups:

\[\text{get in the way of catchment proposals — they're spoilers, not pro-development and a waste of time for government.... They use media and other forms [of publicity] to bring undue}\]
pressure on development without full knowledge or technical expertise (Mitchell River government officer, August 1993).

Several other interviewees spoke of a role for community groups: not as policemen. In other words, regulation was actively discounted as a role for community groups.

4.6 Skills, experience and personal qualities of group members

A total of more than 815 different responses across all three groups and membership types were provided to the question: 'What skills, experience and personal attributes of individual group members is necessary for a community group to be effective?'. Knowledge and experience were often collapsed by respondents in answer to this question. Two broad types of experience were discernible in the data. Firstly, there were a number of responses which accorded with local, practical, community-based or experiential knowledge (for example, life experiences). Secondly, there was a group of responses which mentioned outside experience or knowledge of government, tertiary or other educational experience. In the words of another interviewee, you need official qualifications with backup from the Community Catchment Centre. An over-arching theme was the need for a diversity of experiences within the group. Some respondents maintained that it did not matter whether any one individual had certain experiences or not, as long as there was a range of individual experiences within the group. This observation also applied to skills and personal qualities. One person went as far as to say that anyone can help — its not essential to have any special skills or qualities.

There are some important trends emerging from this question. Although all three community groups answered this question with approximately the same number of responses (about 270 each), the responses are not evenly divided between skills and attributes (the majority of cases) or across membership types, see Figure 4.9. Clearly, non-members have less overall numbers of responses to this question as noticed with reference to other research questions. However, in relation to membership type and across community groups, it is especially interesting to note the relative weighting of skills compared to attributes. Consider the range of
Figure 4.9: Skills and attributes - all interviewees

Across community groups

Across membership types

Respondents = 85, responses = 815
categories and responses for both skills and personal attributes. When skills and personal attributes are analysed separately, there are some interesting trends which further distinguish differences among the case study community groups and across membership types, see Figures 4.10a and 4.10b.

4.6.1 Skills

Negotiation skills mentioned by the interviewees include mediation, conciliation, conflict resolution, networking and liaison skills. Group process skills include decision-making, priority and goal setting, long term planning and time-keeping skills. Communication skills include both oral and written skills such as letter-writing, public speaking, listening skills and public relations skills. Organisational skills include secretarial skills, management skills, bookkeeping skills, financial skills, fundraising skills and meeting skills such as ‘chairpersonship’. Leadership skills include delegation, motivational skills, facilitation and coordination skills. Research and analytical skills include technical skills, problem-solving ability, logic skills and research skills in terms of where to access information and how to contact people or mobilise resources.

Consider the relative weighting attached to skills across the case study groups. Interviewees from the Water Watchers group strongly support the need for groups to have members skilled in negotiation, group processes, organisational abilities, leadership and research/analytical skills. This may be due to two factors. First, there were more government officers interviewed in the Water Watchers case study, compared to the other two groups, representing almost half of the total number of interviewees. This factor assumes more importance when compared with Figure 4.9 which indicates that government officers are more inclined to emphasise individual skills compared to personal attributes. Secondly, it could be argued that Water Watchers activity in water quality monitoring required a greater degree of these types of skills than the other two groups. The Downside Landcare group on the other hand, seems to be under-represented in these skills except for organisational skills when compared to the Mitchell River group. This is reflected in the importance attached to personal attributes in the Downside Landcare group, which far outweighs the other two groups in comparison. Lastly, the Mitchell River group
seem to emerge in between Water Watchers and Downside Landcare on these skills. I believe their comparative weakness in listing organisational skills reflects the distances involved in meeting each other across the Mitchell River catchment as well as their lack of specific group projects to date. Communication skills ranks very highly across all three groups. Interestingly, group processes which include such skills as decision-making, goal-setting, planning and time-management are listed less frequently by all three groups and yet are given the most attention by academics and government advisers in encouraging groups to become established (Chamala and Mortiss 1990; Hodgkins and Mahony 1992).

Differences across membership type regarding skills are very interesting. Again, non-members did not provide as many responses to this question, but they do serve an important role as buffer to the obvious differences between government officers and group members. The latter are more concerned with negotiation and communication skills than government officers. However, the opposite is true for every other skill — to varying degrees. As mentioned above, group processes are held in very high regard by government officers. To a lesser extent, organisational skills, leadership skills and research and analytical skills are also more highly valued by government officers. The reasons for this are not yet obvious, but will be discussed in Chapter 8.

4.6.2 Personal attributes

Commitment and persistence attributes related to personal qualities which included discipline, stamina, perseverance, determination, ‘follow-through’, stalwartness and continuity. Creativity and vision attributes related to personal qualities of inspiration, open-mindedness, initiative, inventiveness, desire for change, holism, and ability for forward thinking and being able to see a broader perspective. Understanding the issues and community related to being able to identify local problems, understand local conditions and environments, make contacts and maintain networks with local people. Outcome-oriented attributes related to abilities of achievement, competence, responsiveness, quick wittedness, a work ethic and an ability to act. Attributes relating to Motivation and positivity implied concepts such as enthusiasm, charisma and presence, a willingness to learn, interest, a
positive spirit, a sense of fun, being encouraging of others and having an outgoing personality. **Community-oriented** attributes included a willingness to share, being community minded, having common values and goals and being accepted into the community. **Nurturing** attributes included qualities such as an ability to get on with people, friendliness, affability, patience, warmth, placidness, cooperation, being supportive of other group members and of the leadership, and being able to take direction. **Consideration** included diplomacy, sensitivity, tact, empathy, trust, tolerance, an ability to compromise, to recognise others' skills, to be supportive of others' involvement, to be respectful of difference and of others' views, and to be able to bring people together. Qualities that went into the **Miscellaneous** category included, confidence, flexibility, altruism, humility, honesty, maturity, responsibility, rationality, intelligence, commonsense, resourcefulness, political astuteness, progressiveness, intellectualism and 'nouse' or 'savvy'.

Consider the relative weight attached to personal attributes across the case study groups. Water Watchers group members responded less frequently in the categories of consideration and nurturing than either of the other two groups, but do not stand out in other respects. Downside Landcare group is quite different to both the other groups across nearly all the attributes. Interviewees in that study were much more likely to respond that commitment and persistence, motivation and positivity, community orientation and nurturing abilities are essential ingredients of individual members in order for the group to be successful. I believe this is firmly linked to their strong sense of community and sense of place, discussed further in Chapter 7. However, the Downside Landcare group interviewees were much less likely to list understanding of the community or the issue as an important personal attribute, and were not as outcome-oriented as the other two groups. This is possibly linked to the role that community groups play in environmental management with regard to group process when maintaining and developing a sense of community. Perhaps, interviewees are reinforcing the belief that in order for groups to be effective, individual members have to give up their rugged individualist stance, and trade off their capacity to get the job done, to demonstrate an ability to 'act fast and work hard', with more group-oriented personal qualities. Lastly, Mitchell River group interviewees strongly support the need for group members to be considerate of
Figure 4.10a: Skills compared to attributes — across community groups

Skills

<table>
<thead>
<tr>
<th>Skills</th>
<th>WW</th>
<th>DL</th>
<th>MR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negotiation</td>
<td>24</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Group processes</td>
<td>18</td>
<td>11</td>
<td>11</td>
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<tr>
<td>Communication</td>
<td>24</td>
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<td>Organisational</td>
<td>33</td>
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</tr>
<tr>
<td>Leadership</td>
<td>22</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>Research/analytical</td>
<td>23</td>
<td>12</td>
<td>14</td>
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Number of responses

Respondents = 85, responses = 386

Attributes

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<thead>
<tr>
<th>Attributes</th>
<th>WW</th>
<th>DL</th>
<th>MR</th>
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<tr>
<td>Commitment/persistence</td>
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<td>16</td>
<td>17</td>
</tr>
<tr>
<td>Creativity/vision</td>
<td>18</td>
<td>10</td>
<td>17</td>
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<tr>
<td>Understand community/issues</td>
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<td>Outcome oriented</td>
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<td>10</td>
</tr>
<tr>
<td>Motivation/positivity</td>
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<td>10</td>
<td>10</td>
</tr>
<tr>
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<tr>
<td>Miscellaneous</td>
<td>11</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

Number of responses

Respondents = 85, responses = 429
Figure 4.10b: Skills compared to attributes — across membership types

Skills

Respondents = 85, responses = 386

Attributes

Respondents = 85, responses = 429
others. This reflects the concern of Mitchell River group members for tolerance, difference and the need for cooperation. Given the wide diversity of group members' beliefs, cultural heritage and educational status, it is not surprising that this group underscored the importance of respect for diversity.

Lastly, personal attributes across membership types also reflect a tendency for group members to be more likely than government officers to list these factors as necessary in individual members for community groups to be effective. This is supported by the evidence from six out of the nine attributes listed and is strongest with reference to the attributes of persistence and commitment, nurturing abilities and motivational ability or positivity. The evidence collected from government officers does outweigh that from community members for two attributes — creativity/vision and understanding of the issues or community. The first of these possibly relates to planning skills discussed above under group processes. The second is yet to be interpreted precisely, but may relate to an ability to understand local production processes and the environment.

4.7 Summary

This profile of community groups and their members helps to answer some of the unanswered questions identified by Lerner (1993) and D. Alexander (1993) about stewardship groups, such as who belongs, why they belong and what they get out of belonging. The chapter introduced the demographic characteristics of each of the community groups studied, and investigated some of the reasons which motivate people to join groups. It also analysed the role of community groups in environmental management, and detailed the skills and personal attributes of community group members. In doing so, it has begun the process of constructing a better understanding of community groups. Chapter Five provides more empirical detail through an investigation of the processes and products of group activity.
Community groups: processes
Photograph by: Barbara Carmichael, Publicity Officer, Downside Landcare group
Landcare group members and children planting trees in Downside, NSW.
Chapters 4 and 5 provide the empirical grounds for discussion of the principles of community groups arising from the interpretation of the data in Chapter 7. This chapter describes the way that the community groups under analysis work — how they started, their goals and activities, the role of individuals in the group, decision-making practices, the role of conflict, leadership and other group dynamics. Logically, it starts with group formation, and concludes with an evaluation of group effectiveness and efficiency. Although this chapter concentrates on the experience of the three case studies, discussion also draws upon the literature and theory of small group functioning where appropriate.

5.1 Group formation

The way in which each group forms is subtly different from the factors which motivate particular individuals to join community groups. Although the threat of some unwanted event or impact may provide the spark for individuals to seek group membership, it does not explain the original impetus for group formation. Groups form not because a collection of individuals simultaneously develop the notion to act in the face of sudden or incremental changes to their lifestyle, landscape or health. Someone has to initially act upon the basis of their collective ideas, experiences, attitudes and beliefs and define the urgency of the situation. As Lerner (1993) points out, there is not enough information about how and why individuals decide to act to defend an aspect of their environment; however, there are catalytic factors which aid in the process of group formation:

- media coverage or other avenues which alert existing groups to each other’s presence and to the severity of the problem, thus facilitating communication;
- public fora which allow individuals or groups to meet and form coalitions, these may be called by governments, community groups, universities, etc;
- individual encouragement from politicians, academics and public servants, this may include seed-funding and technical or other advice;
- splinter groups forming in defiance of, or in rebellion to, an existing group’s attitudes or beliefs (Lerner 1994).
Within an Australian context, there are two additional points:

- government policy which encourages or facilitates community group formation through funding programs; and
- experience of environmental problems and other group responses to these problems in other geographic contexts (both regional, state-wide and globally), through direct contact and visits, public broadcasts and electronic linkages.

At this point, anything that makes similarly concerned people and groups aware of one another (media, hearings), brings them together (meetings) and encourages them to organise for action (civil servants, politicians, academics or their own leaders) plays an important role in the creation of new or more active stewardship organisations (Lerner 1994:17).

From a consultancy report prepared in 1992, 51 per cent of the 180 responses from landcare groups stated that a general concern about land degradation or a specific reaction to salinisation and water table problems were the factors which prompted group formation in their area (Rush and Associates 1992). The report also stated that 16 per cent of the respondents stated that a desire for landcare to be at the grassroots, a belief that landcare could help, a need for a more participative model or a concern about radical environmentalists prompted group formation (Rush and Associates 1992, Part Two:18). These authors do not make a distinction between motivation for group formation in general and the catalyst of group formation specifically. It is interesting to note that the concern with 'radical environmentalists' featured several times in the three community groups of this study. Members of all three groups were concerned not to become associated with 'rabid greenies', a point that is taken up again briefly in Chapters 7 and 9.

5.1.1 The formation of Water Watchers

Although it was agreed that Water Watchers started early in 1991, it seemed that group members had quite different perspectives on how and why Water Watchers began operations. This phenomenon was not confined to those interviewees who
were familiar with some of the history of the group; it seems that even those who
were not familiar with the early period of the group had a definite opinion.
Common to most respondents was a belief that local residents were being blamed for
contributing toxic levels of phosphates to the waterways which in turn was causing
outbreaks of blue–green algae blooms in a suburban estuarine inlet. Respondents
spoke of the need to counteract the finger-pointing which government had initiated.
The community group formed in response to the threat of being labelled perpetrators
of environmental destruction.

Respondents informed me that Water Watchers started informally around a kitchen
table in Serpentine Jarrahdale when an officer from the Office of Catchment
Management met with two active local women; one of these was a shire councillor
and the other was someone new to the area who wanted to get more involved in the
community. Each was interested in water quality issues from varying perspectives
and committed to raising environmental standards. Through the State government
officer’s knowledge of funding sources, a grant application was submitted to the
Office of Women’s Interests. The group started as a women’s initiative under the
guidance of the newcomer who put up posters in the local shopping centre and acted
as coordinator and contact person for residents interested in the project.

5.1.2 The formation of Downside Landcare group

The Downside Landcare group grew out of a bus tour to Victoria initiated by the
New South Wales Department of Conservation and Land Management (CaLM).
Members of the Downside Agricultural Bureau witnessed severe dryland salinity
problems and spoke with people involved with landcare groups in the Benalla
region. Upon their return, a public meeting was organised by one of the couples
who went. They telephoned everyone who lived in the Downside area and invited
them to attend. At that meeting, there was widespread agreement that a landcare
group was necessary to address salinity problems already visible in Downside and a
committee was formed.

Some members attribute the group’s beginnings purely to the couple who organised
the first public meeting — ie. to existing community leaders who took on this
project. Others thought that the availability of government funding or the government organisation of the bus tour was the impetus for starting the group. There were only a few members interviewed who were not aware of how the group started. Most attributed it to the recognition of the threat of salinity problems in the Downside area generally.

When interviewing non-members, some thought group establishment had a lot to do with the local tennis club since members regularly got together and discussed common land degradation problems. Others thought it had a lot to do with the Wagga Wagga Tree-planters group or as a result of something written about water problems. Government interviewees on the whole were less familiar with how the group started. However, they were often in touch with the group through informal contact with the Wagga Wagga Tree-planters group or through work. Most government interviewees perceived the group to seek advice from government, and that, therefore, government had indirectly provided the impetus to start. However, the group’s facilitator perceived there to be a more direct government push to start the group. She thought that there was as much push from government as there was pull from landholders, but didn’t see how it could have been otherwise. Although there were varying perceptions as to who started what, the impetus for group establishment can definitely be attributed to the bus trip and to the commitment of the first chairperson and secretary who were sincerely concerned about starting some remedial action to prevent the spread of dryland salinity in Downside.

5.1.3 The formation of the Mitchell River group

Among group members, there is a complete agreement about the origins of the Mitchell River group. It started at a meeting organised by the Kowanyama Aboriginal Land and Natural Resources Management Office (KALNRMO) in June 1990 at Kowanyama. All the major regional land management agencies attended with good representation from federal as well as state government officers. There was widespread concern about the condition of the Mitchell River and for watershed management generally. Arising from the conference was initial agreement on the vision, goals and objectives for the group as well as a recommended membership list. The former are reported in full here based on proceedings of that meeting.
The vision

To co-manage the Mitchell River catchment using an integrated approach to sustain the natural resources and maintain and improve quality and diversity of life.

Goals

♦ Prevent further degradation.
♦ Restore degraded resources.
♦ Ensure use of resources within their capability.
♦ Minimise adverse effects of resource use.
♦ Ensure self maintaining populations of native species.
♦ Ensure appropriate planning and management.
♦ Preserve cultural heritage.

Recommendations

That a steering committee be formed with the following terms of reference:

♦ To evaluate existing processes of integrated catchment management with a view to developing and recommending an appropriate management process for the Mitchell River catchment.
♦ To investigate the feasibility of further developing the process to cover the Cape York Peninsula" (KALNRMO June 1990).

Non-members of the group were generally less familiar with the origins of it. Six of the ten non-members interviewed had no idea how the group began. Others assumed that it had something to do with the Kowanyama Aboriginal Land and Natural Resource Management Office and their involvement with station owners and professional fishers at the bottom of the catchment. From the outset, the Mitchell River group discussed management of the Watershed cooperatively with government, other catchment users and outsiders interested in the river system. Having become familiar with cooperative management (co-management) in the north-west states of the USA through visits and videos from the Squaxin Island Tribe, co-management has always been an operating principle of the group.
In summary, all three groups started in different ways — many of which echoed the points made above by Lerner. Each group acted upon a perceived threat to their local environment, but the process of group formation differed. This has affected the way in which each group went about setting goals and determining projects and activities.

5.2 Goals

The establishment of clear, executable goals and objectives has become widely recognised as one of the factors which contributes to the success of community groups, regardless of their endeavour (Chamala and Mortiss 1990; Rush and Associates 1992). Accordingly, one of the sets of questions directed to members was: ‘When the X group first started, did it set any initial goals? How structured was your approach (through the use of minutes, written memo’s, notes, etc)? Did you try to ensure that everyone in the group had a common purpose or long term set of goals?’ The answers vary across the three groups, but some clear trends emerge.

The majority of group members interviewed were in agreement that there were initial goals set for their specific group. However, when pressed to nominate what those goals were, there seemed to be some confusion. Water Watchers group members were most clear about what they planned to achieve — water quality monitoring. This was perceived by most members as their only goal. However, as the Coordinator for the group explained: The aims were written up (in our minds we always had them), but weren't formulated until I had to give some talks. Someone else commented:

Common goals were worked out after what we wanted to achieve — fairly early on. [There was a] whiteboard, so everyone knew what they had to do. I did like the way everyone was listened to and participated (Water Watchers group member, March 1992).

In Downside, group members interviewed were equally divided between those who thought there were goals initially, those who supposed there were and those who were sure that there weren’t any initial goals:
Yes we did. We had to have goals to get government assistance to form a landcare group — like fighting land degradation and having it set up as a community project.

Yes — I can’t remember exactly. The idea was to have demonstration sites. We did a lot of activities. People didn’t talk much about goals, just an awareness of salt. We knew about it, but nobody else did.

No — we took the attitude of you’ve got to crawl before you walk. One of the goals was to get the interest and involvement of the landcare group. I guess there were [goals] I wasn’t a committee member then. [The idea was] let’s continue ‘seeing is believing’. Let’s make it happen rather than writing it all down (Downside Landcare group member, September 1992).

It is unclear whether there were group goals or not. However, that didn’t seem to prevent the group from conducting local projects. Lastly, the Mitchell River group interviewees were almost completely in agreement as to the existence of goals, because they had been defined at the initial conference when the Watershed group was formed. However, again there was some confusion and little real ownership of group goals:

Yes, I can’t remember exactly, but we did have 8–10 goals and we discussed them and all agreed to them.

Yes — out of the conference some general goals and terms of reference for the MR group were set. What was lacking for a little while was smaller goals and strategies on what to do (Mitchell River group member, August 1993).

In summary, although there were often goals and a vision statement for each group, it seemed that there was little attachment to those goals which often appeared rather nebulous and indecisive ‘on the ground’. This was reflected in interviewees’ inability to recall group goals and objectives clearly, despite being able to remember definite projects and activities. The evidence presented leads to the conclusion that while successful groups do need initial goals and objectives by which to measure their progress, the emphasis should be upon formulating and acting upon goals which are clearly defined, specific, achievable, well understood and agreed to
CHAPTER FIVE — Community groups: processes

(Roberts and Searle 1991). As evidenced by the Water Watchers and Downside Landcare groups, perhaps these goals should not be articulated ‘up-front’, but left until one project has been completed and members have a better understanding as to what they wish to achieve. Goals and objectives are clearly translated into everyday language about local projects in the minds of most community members. Contrary to traditional, strategic or comprehensive planning theory which states that people generally make goals in advance based upon a SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) and then act to carry them through (Chamala and Mortiss 1990; Wolfe 1993a) this study found that goals can be formed and clarified through practical action and experience, rather than in the abstract at the beginning of a project. This finding was confirmed at a recent landcare conference attended by many voluntary group leaders and facilitators (Australian Farm Management Society conference 1994). It appears that the group planning process is much closer to the cyclical theories of action learning whereby action and reflection are continuous loops, defining and refining goals. Lea and Wolfe (1993) describes community-based planning as iterative; groups visit all the stages described by traditional planning theory, but may start at different stages in the planning cycle and move backwards as well as forwards through it, repeating different stages as and when necessary.

5.3 Range of projects

Toward the end of each interview with group members, the question was asked: ‘What has happened as a result of the work of the X group?’ This served to assist members to reflect upon the projects and activities of the group and also provided the opportunity for less tangible outcomes to be aired. Responses to this question fall into a number of categories. This section describes the diversity of projects and activities undertaken by the three groups. See Table 5.1 in order to compare projects across groups.

5.3.1 Field trips, visits and visitors

The Water Watchers group did not conduct any field trips or visits to other groups or places, largely because there were no other water quality monitoring groups
Table 5.1: Projects and activities compared across groups

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<tr>
<td>Field-trips, visits and visitors</td>
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<tr>
<td>Workshops and extension</td>
<td>●</td>
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<td>Educational liaison</td>
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<td>Demonstration and interpretation</td>
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<td>Monitoring and research</td>
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<tr>
<td>Reports and publications</td>
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<td>●</td>
</tr>
<tr>
<td>Vegetation projects</td>
<td>●</td>
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Key: ● Major group activity • Some importance • Minor group activity

within easy driving distance. They did host a number of visitors, but they were not a highlight of the group’s functioning.

Downside Landcare group, on the other hand, were very experienced in all aspects of conducting field trips, bus trips and hosting visitors. One of the more memorable occasions relayed to me by several interviewees, was an occasion when the Downside Landcare group hosted a dinner for a group of visiting New Zealand farmers. One recalled: *I helped to cook tea [dinner] and take it down to the hall to host the New Zealand farmers*, making it more of a shared or ‘pot-luck’ incident. More common activities included tours of the local area and field trips to individual farms to inspect some aspect of landcare activity. Other landcare groups’ visits promoted further understanding about environmental degradation. As one interviewee noted: *[we] shared [our] knowledge with other landcare groups and prospective groups.*

The Mitchell River group routinely made field trips and allow a half day for these before or after their normal meeting times. These were often combined with a social event. Due to the vast distances in the watershed, all group members attending were inclined to travel to the meeting site the night before. On one such occasion at Kowanyama, the group hosted a ‘kubmurri’ (an underground oven similar to a New Zealand hangi) which in itself was a cultural exchange and proved
to be very successful. Elders from the Kunjen, Kokoberra and Kokomnjen tribes spoke of battles and shooting incidents between Europeans and Aborigines. The elders welcomed Mitchell River group members to their country and underscored the importance of cooperation and understanding about land management. The most recent field trip was to the Mitchell Dam, a Southedge Holdings project, to understand the nature and extent of future urban development. Members of the Mitchell River group believed it was important to meet the principal developer in person and discuss this project which could potentially have a very large impact on the Mitchell River system.

5.3.2 Workshops and extension activities

The Water Watchers group did not undertake as many workshops as did the Downside Landcare group or the Mitchell River group. However, the facilitator for Water Watchers would spend time with group members one to one, in explaining how to sample and monitor water quality. Drain profiling, water sampling and calculating phosphorus loads and stream flow rates are not easy tasks for those not trained in science. The Community Catchment Centre proved very helpful to Water Watchers members in providing the technical information and practical skills necessary for the group to complete these tasks, as witnessed by their unwritten philosophy of ‘science for everybody’.

The Downside Landcare group relied heavily on government assistance with workshops and extension services. This affiliation with government agricultural and land management agencies was crucial to the way the Downside Landcare group worked. One of the most successful of these associations was with officers from the New South Wales Department of Conservation and Land Management who conducted workshops on whole farm planning. That activity led to the following comment in the context of activities that bring the group together and assist the group to plan toward future land management strategies in the Downside area.

*Someone to come out and look at individual problems and farm planning on site [leads to] better motivation. If a fellow had a map done they could get advice and may come to next [landcare] meeting. [We] need a direction to be going in -*
some grand catchment plan to see where you’re going.
Catchment planning [in workshops] gets all people involved
[and allows] farm planning more cheaply (Downside
Landcare group member, September 1992).

Without these whole farm planning workshops, perhaps there would be a less clear
direction about catchment planning in Downside. Certainly that liaison seems to
have been positive as far as the group was concerned.

The Mitchell River group also liaised with state government representatives to
undertake a workshop on salinity at the top of the Mitchell Catchment. The area
had been used for irrigation agriculture for many years. In recent times, signs of
dryland salinity had been noticed by local farmers who approached their closest
representative on the Mitchell River group. A workshop was then organised jointly
by the Mitchell River group and the Queensland Department of Primary Industries,
and subsequently the Cattle Creek Salinity Project Subcommittee was established.

5.3.3 Educational liaison

All three groups involved educational institutions to some degree in environmental
education projects. The Water Watchers group actively involved children in the
Slugbusters group from five local primary schools monitoring water quality in
nearby creeks and drains. The group’s facilitator visited these schools and spoke to
children about the autumn ‘slug’ of phosphates flowing through the waterways at the
end of summer (hence the formation of ‘Slugbusters’). This concept captured the
childrens’ imaginations and served to increase their understanding and awareness of
ecological relationships, specifically those pertaining to nutrient enrichment issues.
One student subsequently suggested that a video should be made about the subject
and distributed to local stores and supermarkets for rental at the rate of 50 cents per
night.

Since the Downside Landcare group started, it has forged links with the Wagga
Wagga Technical College of Tertiary and Further Education, the Marrar Primary
School and Charles Sturt University. The latter two groups undertook fencing and
tree-planting projects as part of their course-work on several landcare members'
properties. This not only deepened understanding about landcare, it also contributed to awareness of salinity problems throughout the broader community. The Marrar Primary School invited the Downside Landcare Group to the school to assist with tree planting. Later, the school hosted the group for breakfast on Melbourne Cup day in recognition of the group's assistance.

The Mitchell River group has also started environmental education projects with schools in their area. However, they are not as far advanced in this activity due to the distances involved, and their early stage of development as a group. The only education project to date involved a competition in local schools to design the logo for the Mitchell River group. This may have served to increase community awareness of the group itself, but probably did not go far enough in environmental education terms.

5.3.4 Demonstrations and interpretation

The Water Watchers group did not undertake any activities fitting into this category. Their goals and objectives were largely practical and not designed to undertake experimental work or interpretive work in their area. The Downside Landcare group were quite the opposite since the establishment of demonstration sites and on-farm trials is one of those activities most associated with landcare groups. One of the Downside Landcare group's first activities was to plan and plant a demonstration site on a saline recharge area. The ground was mounded, then planted with a variety of local tree species. A piezometer (a narrow cylinder inserted down a hole in the ground to measure the height of the water table — Houghton and Charman 1986) and interpretive signs were used to demonstrate groundwater height so that passers by would have a clear understanding of the project. Subsequent to that, demonstration sites have been set aside on several properties showing different approaches such as tree growth in saline areas and pasture improvement under lime. On-property cropping trials, minimum tillage trials and lime trials have all been a feature of the Downside Landcare group process. This educative process seems to have benefited a wide range of landholders in the community apart from those on whose property the trials and demonstrations have occurred.
The Mitchell River group have also undertaken a few demonstration and interpretive exercises. In Chillagoe, the group worked on a project designed to stop an advancing gully. They prepared a demonstration site and erected a sign near the roadside entering the town to interpret some land degradation control measures. The Mitchell River group have also erected interpretive booths at events of local significance such as the Red Dome Gold Mine's Open Day, the Chillagoe Races and the Kowanyama Rodeo. However, the group has only just begun these activities and, with limited human resources stretched over a large area, have not expanded their demonstration activities.

5.3.5 Monitoring and research

Monitoring was the main focus of the Water Watchers group's activity. Toward members' goals of measuring phosphorus loads in water quality, the group undertook three main activities; collecting water samples for analysis, recording flow rates and making a detailed profile of the drain or stream where the sample was taken. Based on this thorough monitoring project, members compiled a research plan of where to monitor the following year so as to maximise their chances of identifying point source emissions:

[We've] already found out and clarified point sources and general phosphate hot spots. It has pointed to subcatchments which need further or greater monitoring. [We've] found that market gardeners may not be contributing [as many phosphates] and [we've] found that wetlands were stripping phosphorus from the water (Water Watchers group member, March 1992).

The Downside Landcare group were also superficially involved in monitoring water quality through the establishment of a demonstration site complete with piezometer noted above. This enabled local landcare group members to regularly monitor groundwater levels and to ascertain the effect of their tree-planting programs. Lastly, the Mitchell River group were not undertaking any monitoring activity when the fieldwork component of this study was undertaken. However, they did have
plans to monitor and aid the spread of rubbervine rust (a biological control agent) to assist government extension scientists control this weed species (see Appendix 5 for more details).

5.3.6 Reports and publications

One of the Water Watchers group activities upon which they prided themselves most was the compilation of a Monitoring Report at the end of each sampling period. Each member had input into the report which was compiled by the facilitator at the office of the Community Catchment Centre. This then went into a summarised version of the report was publicly released by the Serpentine Jarrahdale Shire Council.

The Downside Landcare group did not produce any official report or publications. Their main mechanism for reporting their activities was a regular newsletter discussed below as an awareness raising project. On the other hand, the Mitchell River group produced a brochure which served to publicise the group’s existence as an awareness raising activity, and have also produced a series of Short Reports — two to three pages long, which identify issues of concern to the group. These publications served to promote the projects of the group, raise awareness and to unify the group through a coordinated effort, albeit conducted by the group’s facilitator.

5.3.7 Vegetation projects

Unlike the Mitchell River or Water Watchers groups, the Downside Landcare group specialised in vegetation projects. They established a nursery for growing and cultivating tree seedlings to plant on salt-affected properties and thereby minimised the cost of buying trees. They also had regular ‘pricking-out’ days or working bees to subdivide and transplant growing seedlings. Members involved a local primary school in collecting seed from endemic species and had regular tree-planting, fencing and weeding sessions where the whole group had the opportunity to be involved. The Downside Landcare group was particularly adept at undertaking both practical vegetation projects and fulfilling social goals simultaneously. While not a written
CHAPTER FIVE — Community groups: processes

objective, this social side of the group seems to be a significant underlying principles contributing to its success.

5.4 Meetings and decision-making structures

The three groups varied considerably in their structure and style of decision-making. Water Watchers group members met whenever necessary to decide upon their monitoring strategy and to distribute information. Decisions were made at these meetings concerned the very practical nature of the monitoring strategies. However, decisions were also made via a telephone tree which was informally and later formally established to keep everyone informed. The facilitator was the central hub of the telephone tree system, directing and redirecting information to group members. The telephone tree had the effect of involving more people in decision-making initially, but at the same time, taking longer to arrive at a mutually agreeable course of action, and eventually it disintegrated.

The Downside Landcare group was more structured in its decision-making approach. Public meetings with the whole group were held quarterly on average. On a monthly basis an executive committee was established to ‘keep the pot boiling’ and handle decisions that arose in the interim. The executive committee was comprised of office bearers and several general members of the Landcare group. Before the group had an official coordinator, many of the day to day decisions were made by the chairperson and secretary of the group. Decisions about the direction of the group were made at meetings and in liaison with the executive committee either face-to-face or by telephone. In accordance with the power vested in the executive committee (and especially the chairperson) by the rest of the community group, most members were happy to have decisions made for them about the detailed running of the group. Downside Landcare group members subscribed to the practice of electing members to committee positions and then letting them get on with the job.

The Mitchell River group were quite different from the other two groups with respect to meetings and decision-making. Due to the expanse of the watershed, face-to-face meetings, although less frequent than for the other groups, were
especially important to group members. On average meetings take place every two
to three months and are rotated among catchment locations so as to attract people
who would otherwise not ordinarily be able to attend. On a more frequent basis,
decisions were made via the telephone and fax machine among the executive.
Before the group had an official facilitator, many of the day to day decisions were
made by the chairperson and secretary of the group as for the Downside Landcare
group. Decisions about the direction of the group were made at meetings and over
the telephone: [there were] no memo's or notes, people fax ideas and things through
to each other.

As with the Downside Landcare group, most Mitchell River group members were
happy to have decisions made by the chairperson whom was highly respected in the
area. [The Mitchell River group was] always very structured. Thanks to John —
[he was the] former Mr Chairman. However, there were questions raised about
decision-making powers when new members rejected decisions made by the original
chairperson and wanted a more formal process. At the same time, other group
members were adamant that management practices should not change since the
Mitchell River group is a community group which allows decisions to emerge from a
consensual decision-making process. This conflict showed up when several new
members expressed opinions that not every ‘Tom, Dick and Harry’ should attend
group meetings because the process and structure of the meetings would be too long.
The problem of members being able to ‘stack’ meetings when voting on important
issues was also brought up by these new members. The conflict raised the issue of
who should be a member of the Mitchell River group and what constitution the
group should adopt. These issues were still being considered at the time of writing.
However, they raise an important question about the participation of Aboriginal
members in the Mitchell River group.

Elders from Kowanyama are consulted by the secretary of the Mitchell River group,
who is based at the Kowanyama Aboriginal Lands and Natural Resources
Management Office. Decisions are made at Mitchell River group meetings in the
presence of at least one or sometimes two Aborigines. However, seldom do
Aborigines regularly participate in the conversation and decisions made around the
table. I noted an exception to this practice when observing a meeting of the Mitchell River group which took place at Kowanyama. Most elders from the Kokoberra group attended the meeting, comprising at least 8 people compared with a total of about 12 other members. However, there was little attempt to involve these old people in conversation and most of the meeting was taken up in ‘official business’ which effectively excluded them from participating.

Across all three groups it was generally agreed that the number and frequency of meetings was appropriate to the needs of individual members. However, this was not always the case in the Mitchell River group on account of the distances involved and the cost of attending meetings. In both the Downside Landcare and Mitchell River groups several comments were made concerning the timing of meetings. It was more difficult to attend group meetings when members were especially busy for example, mustering during the dry season in Cape York, or shearing at the end of winter in Downside.

Another widespread belief was in the necessity of having formal meetings, especially in the Downside and Mitchell River groups. At the meetings I observed, the chairperson and facilitator sat at the front of the meeting and all business was conducted through the chairperson. Members of these two groups believed that the group would not be legitimate or official if meetings were not conducted ‘properly’.

Returning to the question: ‘How structured was your approach? Were there minutes, written memo’s, notes, etc?’, almost every member interviewed responded that the meetings were ‘quite structured’ and that ‘everything was done properly’:

*Oh yes we keep minutes, there is a formal part of the meeting. We’re just about to adopt a constitution and become incorporated* (Mitchell River group member, August 1993).

*[Meetings are] very formal because we had committee nominations. Minutes were kept so that we could prove we were a viable group to gain funds and show that we were serious with it* (Downside Landcare group member, September 1992).
Lastly, there were two questions asked in each focus group session relating to members' satisfaction with decision-making and their ability to participate in decisions. In answer to the first question, there was a unilaterally high level of satisfaction experienced by group members in all three groups concerning decision-making practices within each group. However, there was also a persistent minority in each group who believed that they were not able to affect a group decision and that there was not full participation in group decision-making.

5.5 **Leadership and facilitation**

In each community group there was a clearly recognised set of leaders and facilitators. Members were asked to name the key people responsible for the group when it was first established and whether this had changed in the intervening period. For Water Watchers, the key person was the group's voluntary coordinator. She took responsibility for enlisting potential participants and for media liaison, among other duties. However she left the group at the end of its first year in order to care for her children. Other members recognised that the group was not coordinated solely by this person. As one participant noted: *we were all leaders together.* However, this comment was contradicted by several women participants who were concerned that they were not involved in decision-making because the men in the group were talking over their heads: *the male committee experience was excluding women.*

One of these men was the Water Watchers facilitator paid by the Western Australian Department of Agriculture from the government-sponsored Community Catchment Centre. He spent a considerable amount of time talking with, and assisting, group members. However, his role as a leader was compromised. During the interview he described himself as a member of the group and not just paid to facilitate. However, he, too, left the group for a position in a different state. It is questionable whether he really was a member of the group in the sense that he did not live in the area, and it is doubtful whether he would have classified himself as a member of the group had he not been paid to facilitate Water Watchers. This issue is raised again in Chapter 8.
In the case of the Downside Landcare group, the key people responsible for the group were more numerous. They included the chairperson, secretary, treasurer, publicity officer and a number of executive committee representatives. Members spoke of the clear role of the chairperson and secretary in setting out to motivate local landholders to become involved in the landcare group. Over time however, the situation changed. A facilitator was employed by the group with funding from the National Landcare Program set up through the New South Wales Department of Conservation and Land Management. She was consistently named by members as someone who took over most of the administrative load, assisted with the newsletter and managed liaison with government departments. Later, the group’s chairperson became concerned that he was ‘running the show’ and wanted to attract other potential leaders to the position, in order to hand over the leadership reins to someone else:

I was the founding president, had one year off — and now I'm the president again and dogs body. I've had too much involvement [in the group] according to my family. Although I'd be keen to put more in, I have to restrict myself a bit... I'm doing a lot more now than my family would like me to do — to show how well it can work — then others will get involved later on.

Leadership problems of this kind are indicative of similar issues experienced in other community-based environmental groups. Leadership transference was not raised to the same extent in either the Water Watchers or Mitchell River groups, however, it is worthy of expansion here as it sheds light on this important topic.

As noted above, when conducting fieldwork in Downside, the chairperson was the co-founder of the group, but he had not always been the chairperson. For a one year period he stepped down from this position. Several interviewees told me of a committee meeting held to elect new office bearers, when no-one new was prepared to take on the chairpersonship, the original chairperson was re-elected by default. This phenomenon is not peculiar to the Downside Landcare group. Reflecting commonly held beliefs on this subject, one government interviewee said: leadership skills are the main factor in self-perpetuation of groups — [and are also a] major
stumbling block. Other researchers in this field have acknowledged the powerful role of voluntary group leadership as a determining factor in a group’s success:

Strategies for enhancing the leadership pool focus on increasing the pool of potential leaders, augmenting the personal resources of leaders, and encouraging entrepreneurs (Garkovich 1989:209).

I believe that the reticence of other community members to step into the leadership position in Downside (as with other landcare groups) has to do with:

♦ the perceived lack of competence and charisma by other landcare group members (cf. Chamala and Mortiss 1990), and
♦ an unwillingness to shake the status quo according to unwritten rules of conduct associated with knocking the powerful and existing landcare leaders (cf. Gray 1991).

This last point is also worthy of expansion. Rural society is riddled with unwritten rules and laws of social conduct which promote division among certain sectors of this group, and have a distinctive influence upon group leadership. Much of this activity has to do with being an ‘insider’ or an ‘outsider’ to rural communities. Insiders in the Downside Landcare group belong to the tennis club, go to church, use Ultra High Frequency (UHF) radio and have an identified family history associated with generations on the land. Outsiders do not belong to these groups, have no identified social history and generally do not mix with others in the local community. Being on the outside does not necessarily mean that you’re a newcomer to the district, although there is often a ‘waiting period’ necessary for social acceptability. Some landholders in this category may have been living in the community for 20 years or more and still do not associate with others in the district. In other words, small rural communities do not always live up to the romantic and rustic ideals of what is projected in the media as one big happy family (Dempsey 1990).
Leadership in these circumstances is often preserved for the more established, well respected members of the ‘in’ community. Gray (1992) refers to this process as one of ‘clique elitism’; referring to ways in which a small group or individual has power over resources, decision-making and the flow of information in rural communities. The implication of this form of control is a loss of public participation in landcare decisions. Arising from research done by Buller and Hoggart (1986) and Newby et al (1978), Gray makes the observation that high-status groups, such as the executive committee on landcare groups, use their power and ability to articulate their needs to the detriment of low status groups, or ‘outsiders’ in rural communities, thereby diminishing the pluralist nature of participation in landcare. I don’t think this model of elitism was operating in Downside. However, it is important to recognise that landcare groups are not just another local sociological organisation, but are part of a broader political phenomenon.

Since returning from fieldwork, the Downside Landcare group has rotated its leadership. At the time, I noted attempts to ‘groom’ another group member for the chairperson’s position, and this person has subsequently been elected. As with the original chairperson, the current leader relies on support from other members of the executive committee and actively promotes the involvement of other group members. According to Oates and Campbell (1992), these factors indicate that the group is well on its way to maturity and good health.

In the Mitchell River case study almost all group members referred to the leadership role played by Kowanyama and/or the Kowanyama Aboriginal Land and Natural Resource Management Office. However, it was not the organisation which attracted the most attention — it was the individual responsible for being the group’s secretary and his actions in hosting the initial conference which established the Mitchell River group. There was also recognition of the role played by the first chairperson in helping to start the group. One other group member was nominated as a key group member for the role he played with the Queensland Commercial Fishermans Organisation. Each of these people have been or is still active on the executive committee.
Special note was taken of the important current role played by the Mitchell River group's facilitator. Most people listed him as a key group member in addition to the committee members who supported the group before funding was received. The role played by the Kowanyama community was also seen as critical to the current leadership of the group. This issue is taken up in Chapter 7 regarding Aboriginal participation in natural resource management and the importance of traditional ecological knowledge. However, most interviewees recognised the role played by the current chairperson: *we have* a most active chairperson — Bruce — *he is* intelligent, and an energetic live wire — *he* keeps the ball rolling. Several other people pointed to the roles played by the treasurer for the group and a leading grazier who had supported the group from the beginning. Like the other two groups, members reported receiving encouragement in developing leadership skills and believed that it was very effective, even when shared or rotated.

### 5.6 Conflict and the group process

Conflict was a feature of each community group, but was not easy to perceive at first. It was especially difficult to observe where participants belonged to a tight knit group with a good working relationship. Important, however, conflict was not necessarily an indication of poor management within a group. On the contrary, it may signal the need for change, or indicate that the issues confronted are inherently difficult ones. For some community groups perseverance and loyalty to the community group process paid off, even when that process involved considerable conflict. Effective management of conflict reflected a healthy group in which diversity of opinion is welcomed. However, even though conflict was present in each group, the effect of this conflict varied considerably across the three case studies.

In Water Watchers conflict surfaced during interviews with members concerning who belonged and who was excluded from the group. This was illustrated by some male interviewees who made reference to others' perceptions of the group as a women's organisation. Another level at which conflict occurred in the group was in the breakdown of communication between group members, especially with the
demise of the telephone tree. Several members expressed disappointment during interviews about not being told of a certain event or not being informed about the latest occurrences. Lastly, conflict over the perceived goals and objectives of Water Watchers was starkly apparent during the focus group. One member felt that his opinions and beliefs were not being valued by the group and walked out of the meeting. This lack of group cohesion and communication was exacerbated during the change over of government facilitators at the end of the 1991 monitoring season and beginning of the 1992 season. One meeting was called in a hurry in December of 1991, and certain people were not informed of the date and so could not attend. Over several months before the new facilitator was instated, minutes were kept by another member and distributed only to those who attended meetings. At the same time, membership changed and grew and old members took less of a leadership role. Therefore, by the time those who were part of the original membership list were appraised in writing of a meeting with the new facilitator, (who had a mailing database on record), three further meetings had been held. The rapid change shocked some original members: there was almost a completely new group last night, with the result that three months later, this respondent no longer believed he was part of the group, its goals or its future.

I think that in the December meeting there were certain people who were excluded on purpose. There was a lot of politicking going on (Water Watchers group member, March 1992).

Conflict among Downside Landcare members led to a difficult situation early in the development of the group which culminated in the chairperson standing down from his position for a year. An issue of farm size — whether landholders should be allowed to subdivide their blocks or not — split the community. The conflict began to affect the chairperson's integrity and fairness as group leader so he resigned, explaining: I didn't want to be seen to be a key person [supporting anti-subdivision]. However, that conflict does not seem to have left any major scars on the group. During the focus group, all respondents except two reported that conflicts were handled effectively, one of whom stated that she felt that the subdivision conflict was a low point for the group.
Without conflict in the Mitchell River group, some interviewees perceived that the group would not be where it is today. Conflicts within the Mitchell River group are very interesting and profound, not least because of the makeup of the group itself. In perhaps the most unique of Australia's catchment management committees, there is a mix of people traditionally perceived as 'at each others' throats'. Conflict remains an ongoing theme since the group formed. The most apparent form of conflict was between representatives of different factions or industry groups who were not familiar with group dynamics or other members' personalities. On several occasions this unfamiliarity upset established relationships and retarded consensus on or negotiation of difficult decisions. The pushing of positions on behalf of an organisation or industry group can curtail discussion of the issues and distract members from looking for alternatives (Fisher and Ury 1981).

Another conflict in the Mitchell River group was apparent between different ideologies. This is not surprising given that the group is comprised of environmentalists, graziers, Aborigines, miners, tourist operators and professional fishers. There was also a lot of government departments who were, at times, in competition among themselves. This conflict exists within the context of potential external threats imposed by such political debates as the Native Title legislation, and economic conditions such as the collapse in the local tobacco industry. An illustration of one source of extreme conflict in the group serves to underscore the importance of conflict management.

Early in the establishment of the group, a development issue threatened to divide the group over its potential ecological and economic impacts. A local developer proposed developing a Tropical Highland Residential Resort for elite international visitors. Part of this development was the establishment of a series of dams near the headwaters of the Mitchell River. Local government could see the benefits of spin-off employment and economic recovery. As heard more than once during fieldwork: *it is the best thing to happen to Mareeba since sliced bread*. The Cairns and Far North Environment Centre were vehemently opposed to the development. On the other hand, the developer maintained that: 'The first Southedge Dam has, since 1988, been a statement of environmental impact far superior to any academic study which
study which could have been devised' (Quaid Projects Management Brochure 1993). Conservation-minded members of the group advocated undertaking an environmental impact statement to monitor baseline changes in environmental attributes of the site. But the Director of Quaid Projects Management was heard to comment: *environmental impact statements are three expensive words... you have to break the egg to make an omelette*. The point he was making was ideologically-based and premised on a firm belief that: *so often scientists are wrong... where are all the do-ers?* Other members of the group also advocated planning and monitoring: *the main thing is to be a good neighbour, we want to be proactive*. The ‘other side’ countered with: *if we sit on top of the mountain and do nothing — who will pay the tucker bill? ... Most of you men are practical men who, when you make a mistake, you pay for it with your cheque book... If you do nothing you get nothing back.* The conflict was deepseated and unlikely to be resolved given that it was premised on two such completely different world-views.

The conflict escalated early in the establishment phase of the group when the original chairperson made a public statement decrying the bulldozing of trees into the creeks on Southedge. Some members believed that the media release did not represent the views of the group. During and after this disagreement, some members aligned themselves with one perspective or the other which served to divide the group further and pit hard-won friendships and liaisons against one another in a destructive way. Others successfully defused the situation by maintaining and developing group cohesion and refusing to take sides. Fortunately, some ground was able to be made up between the two most vocal representatives of each ‘camp’ and the conflict does not seem to have had any lasting effects, despite newcomers attempting to re-ignite the issue. During the focus group, all respondents except one reported that conflicts were handled effectively when asked about conflict resolution. The situation illustrated how conflict can damage relationships in community groups.
5.7 Representativeness

Across all three groups, members had difficulty answering the question: ‘How representative of the wider community is the X group?’ Some members interpreted it as meaning geographically representative of the area. Their response was generally positive, 49 out of a total of 85 respondents maintained that their group was representative. However, there were others who interpreted this question to mean representative of the population of the area and who had some problems with this concept.

[It is] pretty representative. At two levels [we] are representative of the land users and people types and attitudes, but not representative of the people who live in the catchment (Mitchell River group member, August 1993).

One respondent from Water Watchers claimed that all the other group members were property owners in the area: we are the only ones who don’t have property in the district. Local fishermen in Mandurah are not represented, but they have a vital interest. It appears that some respondents were interpreting ‘the wider community’ more broadly than others. Another Water Watchers respondent felt that group membership was: very cliquey, too many big farmers and councillors, they are too elitist. They all have handles to their broom. As a representative of a ‘hobby’ farm, this interviewee also believed herself to be part of a minority. One other Water Watchers respondent also believed hobby farmers ought to have been better represented in the group than they were. Still others believed that the group should have attracted more farmers generally, one respondent mentioned dairy, poultry and pig farmers. Two respondents spoke of the need to involve more urban people:

Scouts, cubs and guides would have been more committed and more versatile than the kids at school. [there you have] legal issues of kids not being allowed out without a teacher (Water Watchers group member, March 1992).

Several respondents in the Downside Landcare group interpreted this question in the same way:
CHAPTER FIVE — Community groups: processes

Geographically, [the group is] not very representative — core members are members who live close to each other
(Downside Landcare group member, September 1992).

Other interviewees interpreted the question to mean representative of the wider socioeconomic community. One respondent wanted to add more bureaucrats: they're our educators, on field trips we've had more of these types of people. Another wanted: more political or government representation occasionally — not as regular members but [we should] invite them to come and see the group's activities. Another respondent who interpreted this question socio-economically said: we don't have a very broad group — mostly farmers, but not just farmers. Interestingly, several interviewees raised the issue of women's representation: we could have more involvement from some of the wives — even though we've got good involvement from some — if we had people coming as couples, they'd see social things.

One Mitchell River group respondent wanted to add more river users and fishing groups. Another wanted to see representation from: some of the agricultural interests around the tablelands — [there are] none from sugar or tobacco or small cropping sectors and most of these are near the headwaters [of the Mitchell River]. This sentiment was echoed by someone else who wanted better representation from the farming sector. A few members wanted to add more Aboriginal people: I'd like to see extra representatives from Kowanyama, from the Aboriginal people themselves. In particular it was felt that Aboriginal groups from other parts of the catchment should become involved. Other interviewees wanted representation from the Department of Family Services, more tourism representatives and someone else thought that: schools should have an input from a learning point of view.

In summary, it is very difficult to accurately assess the degree of representativeness of membership in environmental community groups, let alone to establish how appropriate it is. This depends not only on the sort of people who make up the community but is also influenced by the degree to which residents perceive themselves to be participating in the process. Table 5.2 illustrates the range of respondents who simply replied that their group was representative in some way.
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Note that the ‘indeterminate’ category contains ‘I don’t know’ and ‘yes and no’ types of responses. Note also that government officers tended to be less positive about the representativeness of the groups while non-members were generally more certain that the groups were representative. Water Watchers perceived themselves as least representative, while the Mitchell River group was most representative. One of the Downside Landcare interviewees did not answer this question, accounting for one less respondent in total.

Table 5.2: Reported representativeness — all interviewees

<table>
<thead>
<tr>
<th>GROUPS</th>
<th>YES</th>
<th>NO</th>
<th>INDETERMINATE</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Watchers</td>
<td>11</td>
<td>7</td>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td>Downside Landcare</td>
<td>17</td>
<td>3</td>
<td>7</td>
<td>27</td>
</tr>
<tr>
<td>Mitchell River</td>
<td>21</td>
<td>3</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>TOTALS</td>
<td>49</td>
<td>13</td>
<td>23</td>
<td>85</td>
</tr>
<tr>
<td>Members</td>
<td>20</td>
<td>6</td>
<td>8</td>
<td>34</td>
</tr>
<tr>
<td>Non-members</td>
<td>17</td>
<td>1</td>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>Gov’t officers</td>
<td>12</td>
<td>6</td>
<td>12</td>
<td>30</td>
</tr>
</tbody>
</table>

5.8 Education and training

Two questions were asked during the focus group session with each of the community groups regarding education and training: ‘How much opportunity have you had to learn new skills?’ and ‘Was attention given to training and skills development?’ Most participants across all three groups reported having between some and many opportunities in response to the first question. However, there was a more hesitant response to the second question. With the exception of the Water Watchers participants, who all stated that there was considerable attention to training and skills development, all other focus group participants indicated that less attention had been paid to training and skills development.
The issues of training, education and skills were also addressed during interviews with community group members. Most respondents reported personal satisfaction with their opportunities for learning new skills and gaining local knowledge:

"Personally, [I've gained] better knowledge of the catchment; a better feel for the art of negotiation and cooperation, and [I've had] an opportunity to expand my studies (Mitchell River group member, August 1993).

Much of this education took place on an informal level. The Downside Landcare group facilitator told me that she had learnt from a diverse range of new experiences and from the she worked with. As a result of much informal learning, she has developed:

"More confidence in speaking my mind; more realisation of my self-worth and the skills I have and what I have to offer; increased knowledge on problems and solutions — specific to the Downside area and generally in the Wagga area; better understanding of people, [I] learned how to encourage people to use their skills better and started learning how to delegate; [I have] more knowledge about trees and the confidence to lime and directly drill pastures (Downside Landcare group member, September 1992).

Members also reported learning skills from other people. One person said: the Soil Conservation — and Department of Agriculture blokes — you learn ideas off them. The chairperson of this group also reported learning more informally: I enjoyed learning about different species of salt indicator plants and about plant identification. I also developed some people skills - conciliatory skills, more tact. Many new skills and learning experiences were gained on an informal basis, but what took place on a formal basis? In Downside, workshops on whole farm planning were held and guest speakers invited to meetings to talk about landcare statistics in the area. In Water Watchers, there were also many opportunities for formal education as members learned how to monitor water quality and calculate phosphorus loads. In the Mitchell River group, formal educational opportunities are
being developed, but the role of local ecological knowledge and its transfer to non-Aboriginal group members is significant, as established in Chapter 7.

5.9 Outcomes and products

Focus group participants in all three groups evaluated group process in working toward their goals (see Table 5.3). Note that each participant’s personal evaluation of group process has been combined with other members’ evaluations within each group to provide an average of each group’s response.

This section presents clear goals and objectives for each group, so as to provide a base for evaluation of its achievements. These goals were articulated by focus group participants. Necessarily then, this section benefits from participants’ hindsight — it is often easier to look back and say what you were trying to do than it is to look forward and clearly state what you want. Since the goals and objectives for each group vary considerably, there will be no attempt to analyse the effectiveness or efficiency of each group’s goals in comparison with the other groups.

5.9.1 Water Watchers — outcomes

The goals and subsequent activities as perceived by members of Water Watchers attending the focus group were tape-recorded and transcribed as follows:

- To collect data/information on phosphorus loadings and salinity in water quality within [the coastal catchment of] the Serpentine Jarrahdale Shire.
- To pinpoint specific water quality issues according to land use.
- To find a pattern or correlation between land use and water quality in the Peel Harvey inlet.
- To provide a base standard of water quality data for future planning.
- To raise community awareness of the health of the waterways within the Shire through the involvement of children, teachers and other interested adults.
### Table 5.3: Evaluation of group process: a comparison across three cases

<table>
<thead>
<tr>
<th>Process</th>
<th>Evaluation</th>
<th>DL</th>
<th>MR</th>
<th>WW</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Social/personal: (how much did group members put into the group and how much did they get out of the group?)</td>
<td>a little put-in</td>
<td>DL</td>
<td>WW</td>
<td>MR</td>
</tr>
<tr>
<td></td>
<td>a little</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Training/skills development: (the extent of opportunities for learning, whether there were sufficient or insufficient attention paid to skills development)</td>
<td>did not learn</td>
<td>MR</td>
<td>DL</td>
<td>WW</td>
</tr>
<tr>
<td>3. Leadership/facilitation: (the extent to which the group considered they had clear, structured facilitation and leadership or unstructured and unclear facilitation and leadership)</td>
<td>unstructured, unclear</td>
<td>DL</td>
<td>MR</td>
<td>WW</td>
</tr>
<tr>
<td>4. Group cohesion: (the extent to which the group considered themselves to be cohesive and team oriented, or incohesive and individualistic)</td>
<td>incohesive, individualistic</td>
<td>MR</td>
<td>DL</td>
<td>WW</td>
</tr>
<tr>
<td>5. Communication: (the extent to which the group considered communication to be good and rich or bad and poor)</td>
<td>poor, bad</td>
<td>MR</td>
<td>DL</td>
<td>WW</td>
</tr>
<tr>
<td>6. Resources: (on a human and financial scale, the extent to which the group considered its resources to be sufficient or insufficient)</td>
<td>insufficient</td>
<td>DL</td>
<td>MR</td>
<td>WW</td>
</tr>
<tr>
<td>7. Decision-making: (the extent to which the group considered decision-making to be shared and participatory or unshared and non-participatory)</td>
<td>lacking</td>
<td>DL</td>
<td>MR</td>
<td>WW</td>
</tr>
</tbody>
</table>

Source: combined results from three focus groups
To bring a variety of people together to work alongside each other on the problem from a neutral perspective (eg. government agencies and community groups).

To demonstrate that it wasn’t just the farmers at fault for [the nutrient enrichment problem].

To develop a water quality monitoring system for the community (not just for government).

To put the information collected into a form which could be used by others (potentially to modify current agricultural and land use practices).

To disseminate the information to various people.

These goals were then distilled into three categories and ranked. From most important to least important, participants decided that their primary goals were:

1. AWARENESS AND INVOLVEMENT
2. WATER QUALITY MONITORING ACTION
3. DISSEMINATION OF INFORMATION COLLECTED

Participants were then directed to think about and discuss what they have achieved under these three categories. Both the good and bad outcomes of each category were discussed which gave way to the following analysis, illustrated in Tables 5.4, 5.5 and 5.6. Please note that this analysis is based upon participants’ perceptions of the outcomes, rather than any independently demonstrated and observable outcomes.

1. Awareness and involvement

A wide range of interview responses was given concerning awareness raising and involvement in the community. Here, they are discussed separately. One respondent said:

More people are aware [of phosphorus loads] through the kids and the project itself... There have been two radio interviews and local newspaper coverage [as far as] Mandurah... plus there has been a summarised version [of results] published through the Shire bulletin (Water Watchers group member, March 1992).
Table 5.4: Water Watchers Goal 1 — Awareness and involvement

<table>
<thead>
<tr>
<th>Bad points</th>
<th>Good points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parochialism.</td>
<td>Involvement of 50 kids, they were told the results, they had fun, educating their parents through hands-on involvement.</td>
</tr>
<tr>
<td>There’s no high school in the Shire to get involved.</td>
<td>We were making a positive contribution.</td>
</tr>
<tr>
<td>We started too late, there were time constraints.</td>
<td>We are more educated and connected.</td>
</tr>
<tr>
<td>Not enough people resources.</td>
<td>The continuation of water quality monitoring from sampling to analysis.</td>
</tr>
<tr>
<td>The funding was given too late, there was no commitment of funds early on.</td>
<td>Media coverage through several newspaper articles.</td>
</tr>
<tr>
<td>One school was not involved at all.</td>
<td>Involvement with the British Petroleum (BP) awards.</td>
</tr>
<tr>
<td>Not everyone gets the LCDC newsletter.</td>
<td>Radio interviews.</td>
</tr>
<tr>
<td>Schools problem with insurance [regarding taking children outside school premises].</td>
<td>The Serpentine Fair and Royal Show stands and leaflets published.</td>
</tr>
</tbody>
</table>

Effectiveness

- - - - - - - - - +

Efficiency

- - - - - - - - - +

Perhaps the most ‘telling’ comment about awareness raising was this:

[There is] much greater awareness and knowledge of phosphate content in streams and drains with which to make more intelligent decisions in the future — [it has been] a tremendous insight into problems in the catchment (Water Watchers group member, March 1992).

Although it is difficult to assess the level of external evidence for a change in awareness levels about nutrient enrichment in the Serpentine Jarrahdale area, numerous newspaper articles do indicate a high degree of public attention concentrated on this issue (Anon 1991a; Cox 1991; Anon 1992). In the focus group, although participants nominated ‘awareness raising’ as the goal with the highest priority, there was some conflict about this prioritisation. Some participants
felt that monitoring year after year was a waste of time and that it was the responsibility of the group to actively change attitudes and behaviours among local residents.

It is difficult to assess the extent to which the goal of involving more people was achieved, it depends on the definition of 'involvement'. One respondent said: *involving kids was very successful, proving the adage 'Tell me and I'll forget, show me and I'll remember, involve me and I'll understand.'* Certainly school children, land holders and residents were ‘involved’ in water quality monitoring at the sampling stage, but not everybody took the process through to performing calculations, drawing conclusions and developing action plans. Certainly it was never intended that there be more than one person undertaking the laboratory analysis. However, at one point a group of school children went to the groundwater testing laboratory to look around.

One of the aspects of Water Watchers which members were most proud of was the involvement of a wide range of different types of people in the project. Members’ backgrounds were very diverse, from ‘homemaker’ to ‘violin teacher’ to ‘farmer’ and ‘groundwater chemist’. In terms of the number of people involved, it is estimated that approximately 150 school children took part through 5 different primary schools. Members of Water Watchers themselves however were a relatively small group numbering between 3 (at the beginning) and 23 (at the end, counting all those who undertook sampling activities at one time or another).

2. Water quality monitoring action

Water Watchers group members compiled comprehensive summaries of the results obtained from water quality monitoring for 32 sites within the Serpentine Jarrahdale Shire. Measurements of phosphorus concentration, and stream flow subsequently allowed calculations of phosphorus loads and loss rates to be carried out for all sites. In addition, biophysical aspects of the effects of phosphorus were discussed in the Monitoring Report on the basis of site descriptions noted by members for different land use and soil types (Attwater 1991). Consider two site descriptions extracted from the report:
### Table 5.5: Water Watchers Goal 2 — Water quality monitoring action

<table>
<thead>
<tr>
<th>Bad points</th>
<th>Good points</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Everyone] sampling on the same day was difficult.</td>
<td>The sense of achievement, beyond our expectations.</td>
</tr>
<tr>
<td>Picking a day suitable for all schools was difficult.</td>
<td>Enthusiasm about learning new things.</td>
</tr>
<tr>
<td>Telephone tree system broke down.</td>
<td>There was a big range and some very interesting results.</td>
</tr>
<tr>
<td>Teaching everyone how to do cross-sections of drain profiles was difficult.</td>
<td>A sense of involvement.</td>
</tr>
<tr>
<td>Samples were not labelled correctly.</td>
<td></td>
</tr>
<tr>
<td>There's no information about how to catch the [phosphorus] slug.</td>
<td></td>
</tr>
<tr>
<td>Some drains were dry and others were not.</td>
<td></td>
</tr>
<tr>
<td>Checking water velocity was difficult when there were weeds clogging up the drains.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effectiveness</th>
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<tbody>
<tr>
<td>Efficiency</td>
<td></td>
</tr>
</tbody>
</table>

A. Site M1 catches the water from the hill catchment, east of the South-West Highway, The subcatchment area is approximately 1700 hectares. Rural grazing is the major land use, though some special rural development can be seen from the site. Vegetation cover around the bridge is reasonable with healthy trees nearby, and surrounds are overgrown with reeds, blackberry clumps and kikuyu. The soil is sand over clay. The water looks clear, clean and drinkable and is used nearby for reticulation and livestock (Attwater 1991:34).

B. Vegetation and grass cover near the sampling point are OK but lots of dead trees can be seen in the feedlot. The water moves slowly over a wide creek bed and is cloudy in colour. The shallow bed and grassed bottom made it difficult to estimate velocity with an orange (Attwater 1991:42).
From Table 5.5, note that there were more bad points listed by focus group participants than there were good points. This seems contradictory when compared to the evaluation at the bottom of the table stipulating that members believed their effectiveness was greater than their efficiency. However, it is understandable considering that through the monitoring program, members refined and updated their monitoring techniques at regular intervals. While they were quite happy with their ability to show ‘results’ detailed in the Monitoring Report, they believed that they still had some way to go in refining their monitoring techniques.

Table 5.6: Water Watchers Goal 3 — Dissemination of information collected

<table>
<thead>
<tr>
<th>Bad points</th>
<th>Good points</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is too soon to judge whether the results can be used.</td>
<td>We had a lot of support from the Community Catchment Centre.</td>
</tr>
<tr>
<td>Maybe people will not take any notice of a report. who will read it?</td>
<td>There was a report produced which is professional, credible and readable.</td>
</tr>
<tr>
<td>There are no funds [to act on the results of the report].</td>
<td></td>
</tr>
</tbody>
</table>

3. Dissemination of information

The end of year Monitoring Report compiled by the group’s facilitator, details the importance of collecting local information to form a base of local data on which to build action plans. The document reports that data collected by Water Watchers is being used in at least two ways; in the Shire’s Rural Strategy and by local landholders interested in farm planning. One respondent echoed the importance of local information for the Shire: [it has had] a big impact on the Shire, we will have to rethink the rural strategy in light of the results. However, the report does not discuss ways in which the group’s experience is being used outside the community
CHAPTER FIVE — Community groups: processes

and does not raise any unexpected outcomes. Among these unintended outcomes of the group's work were a range of responses noted during interviews:

The Community Catchment Centre learned a lot from Water Watchers. They did a similar project to WW with money received from the Department of Agriculture.

It has fired up other monitoring groups to do something, do it quickly and get their figures into a form which actually means something to others.

I have a keener appreciation of the need to develop land management programs very quickly.

Some [WW] results were used as the basis of a submission to the EPA on sheep holding yards as point source emissions.

The information generated has been used on a wider scale, for example the Water Ways Commission has written an information booklet on community monitoring for similar projects.

[WW] provided energy and information to the [Land Conservation District Committee] LCDC.

[The project has] given WW a high credit rating in the eyes of the authorities.

We found that wetlands were stripping phosphorus from the water.

It has shown up terrible gaps in the Environmental Protection Authority's and the Water Authority of Western Australia's monitoring programs. Many of their statements were based on assumptions, not facts.

[Now we know we need] more information in order to make decisions — it is not cut and dried — but we do have a starting point for further and more intensive study (Water Watchers group member, March 1992).

5.9.2 Downside Landcare group outcomes

The question of outcomes for the Downside Landcare group was also predicated upon the goals and objectives of the group. The following list was the first synopsis of these goals transcribed during the focus group:
♦ To solve the problems [acidity, salinity of the area].
♦ To learn about these problems and why they’re happening.
♦ To make unproductive land stable or productive.
♦ To see and understand [recognise] the problems.
♦ To work with a group to achieve change [both the people on the hill and lower down].
♦ To get people involved.
♦ To create awareness in others.

As rationale for these goals, two further comments were made:

_We didn’t want our land to end up like other places (Kyeamba for example)._  

_We wanted to do something (works on the ground) (Downside Landcare group member, September 1992)._

During the focus group these goals were then distilled into four categories and ranked. From most important to least important, participants decided that their primary goals were:

1. ACTION  
2. EDUCTION  
3. AWARENESS  
4. INVOLVEMENT

Focus group participants were then directed to think about and discuss what they have achieved under these four categories. Both the good and bad outcomes of each category were discussed providing four transcripts, illustrated in Tables 5.7, 5.8, 5.9 and 5.10. Again, this analysis is based upon participants’ perceptions of the outcomes, rather than any independently demonstrated and observable outcomes.
Table 5.7: Downside Landcare Goal 1 — Action

<table>
<thead>
<tr>
<th>Bad points</th>
<th>Good points</th>
</tr>
</thead>
<tbody>
<tr>
<td>The time taken before you see results — most of us may not see results.</td>
<td>Demonstration sites prove what you have done.</td>
</tr>
<tr>
<td>People don’t feel they have enough time.</td>
<td>Good first meeting called — everybody came.</td>
</tr>
<tr>
<td>[There’s] guilt that we haven’t come up with anything that will help everyone.</td>
<td>The [Benalla] bus trip was good for those who went and because of it the group formed.</td>
</tr>
<tr>
<td></td>
<td>We’ve strengthened the social structure of the district through tree planting and building the greenhouse.</td>
</tr>
<tr>
<td></td>
<td>We’ve had minimum till demonstrations.</td>
</tr>
<tr>
<td></td>
<td>We’ve proved things with lime trials and demonstrations.</td>
</tr>
<tr>
<td></td>
<td>Hosted visitors.</td>
</tr>
<tr>
<td></td>
<td>We’ve lobbied for rebates on freight charges for lime.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effectiveness</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>

1. Action

Besides those outcomes listed in Table 5.7, there were other activities which fit within the broad category of ‘action’. Several people mentioned the first demonstration site as an illustration of bringing an obviously unproductive, saline piece of land back to at least a stable condition, if not productive. Other group activities have included the establishment of pasture demonstrations, cultivation practice demonstrations, the trial of lime-strips, more trees planted in the area and the implementation of the Green River Banks project.
Table 5.8: Downside Landcare Goal 2 — Education

<table>
<thead>
<tr>
<th>Bad points</th>
<th>Good points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very complex problems.</td>
<td>Good to have kids involved.</td>
</tr>
<tr>
<td>The [high] cost of knowing, eg. with fencing.</td>
<td>Kids will be running the country in the future.</td>
</tr>
<tr>
<td>Some people know but don’t do anything.</td>
<td>Kids will be influencing adults.</td>
</tr>
<tr>
<td>We haven’t come up with something from the demonstration sites.</td>
<td>With demonstrations we are learning from each other.</td>
</tr>
</tbody>
</table>

Effectiveness

| Efficiency | + |

2. Education

Although education, or more specifically ‘to learn’, was cited by group members as one of the primary forces motivating landholders to join the landcare group, it did not feature very prominently in the focus group. However, it was raised by members when listing their personal satisfaction with the landcare group. To the question ‘personally, what did you get out of the work with the group?’, members reported have higher levels of education and knowledge about specific problems or solutions.

Several members spoke of their increased knowledge in terms of the field days and workshops arranged by government agencies: *we’ve had* field days to try to educate people on soil structure and acidity and pasture establishment. Others spoke directly about increased learning: I’ve learned a lot [and gained] knowledge for sure, or its educated me regarding environmental issues — I know a lot more than I did. One person said: I’ve learnt to apply knowledge to [my] own problems on the farm — you know what’s going on in the area. Still others thought of education purely as relating to the local primary school involvement:
[About the] The Marrar public school involvement, that couple of days, getting kids involved early [they're] more likely to appreciate trees and look after trees better. [They're] not as likely to chop down trees like their Great Grandfathers did — that's the first thing they did — clear the land. They're more aware, and [I've] enjoyed it — the whole community was involved, parents too (Downside Landcare group member, September 1992).

It seems likely that, in the focus group situation, people did not feel comfortable talking about themselves in terms of education and learning new skills. When examining the interview data however (quoted above), there are many examples of people who reported learning as an outcome of group membership. But there were also some disconcerting statements about people's perceived lack of knowledge inhibiting their involvement in the group (see Chapter 4).

3. Awareness

Awareness was one of the most frequently raised examples of personal achievement in landcare:

*I'd like to think more people are aware of the problems to some extent.*

*[There is] more acute awareness of local environmental problems.*

*I've become more aware of the necessity to care for our soil and pass it on in a good state* (Downside Landcare group members, September 1992).

In fact, all group members spoke of increased awareness. Of all the group goals, perhaps this one is the most well illustrated. One member even went as far as to quantify this raised awareness:

*[We've] built an awareness of ecological [matters at] meetings. Now people know about salinity. *The first meeting 3 people put up their hand to own up to salinity. At a later meeting about 10 people put up their hand* (Downside Landcare group member, September 1992).
Table 5.9: Downside Landcare Goal 3 — Awareness

<table>
<thead>
<tr>
<th>Bad points</th>
<th>Good points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some haven't joined, but you can't make people join.</td>
<td>It's good that so many people are aware and have joined the group.</td>
</tr>
<tr>
<td>Some properties may be devalued because of awareness of salinity.</td>
<td>Bus trips.</td>
</tr>
<tr>
<td>Peizometres indicate problems.</td>
<td>[We have an] active publicity officer, [who keeps] photographic records.</td>
</tr>
<tr>
<td>Is it our job to create awareness in others?</td>
<td>The Newsletter to keep people informed — it creates enthusiasm and acts as a reminder of our achievements.</td>
</tr>
<tr>
<td>Some people don't get information.</td>
<td>School kids involved.</td>
</tr>
<tr>
<td>Are people more aware of problems because of the demonstration sites?</td>
<td>International visitors.</td>
</tr>
<tr>
<td>Sign-posts don't tell you what it's about.</td>
<td>A lot of TV and radio about landcare.</td>
</tr>
</tbody>
</table>

Effectiveness

Effectiveness

Efficiency

The Downside Landcare group are creating awareness through newsletters and through their efforts at television and newspaper coverage. Yet there is still a marked trend within the group to down-play the role of awareness, in favour of an accent on action and doing something which seems to be more important for some than does the goal of increasing community awareness. However, one respondent noted the close association between more awareness and individual action:

*I'm* more aware of wet spots and problems areas — you can sort of tell the spots to look for. *There is* more awareness of other people’s problems from bus trips etc and *you’re* more conscious of preserving your own soil. I have planted trees due to *my* awareness and have sown phalaris on the hill (Downside Landcare group member, September 1992).
Table 5.10: Downside Landcare Goal 4 — Involvement

<table>
<thead>
<tr>
<th>Bad points</th>
<th>Good points</th>
</tr>
</thead>
<tbody>
<tr>
<td>It can drag on, some people get sick of doing</td>
<td>Fun, chatter.</td>
</tr>
<tr>
<td>everything.</td>
<td>Good learning.</td>
</tr>
<tr>
<td>Busy life — you can’t get involved.</td>
<td>Comradeship.</td>
</tr>
<tr>
<td>Costs money to be involved.</td>
<td>It's interesting.</td>
</tr>
<tr>
<td>Frustration. If you can’t pay for fencing, you</td>
<td>It motivates you to see others involved.</td>
</tr>
<tr>
<td>can’t get involved.</td>
<td></td>
</tr>
<tr>
<td>Pity there is no school located physically</td>
<td>Kids' involvement.</td>
</tr>
<tr>
<td>within landcare boundaries.</td>
<td></td>
</tr>
<tr>
<td>People are afraid of involvement.</td>
<td>You become more understanding and</td>
</tr>
<tr>
<td></td>
<td>more tolerant of others' problems.</td>
</tr>
<tr>
<td>Not everybody wants to get elected to positions.</td>
<td>Chemical companies were involved — free PR.</td>
</tr>
</tbody>
</table>

Effectiveness

<table>
<thead>
<tr>
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<th></th>
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<th></th>
<th>+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>+</td>
</tr>
</tbody>
</table>

4. Involvement

As with the other goals, not all group achievements were noted by the focus group. During interviews, several important points were made about the benefits of involvement. One person told me that through her involvement with the Downside Landcare group: you know what's going on in the area. Another told me she had got to know the neighbours better through being involved with the landcare group. And several members pointed out the personal satisfaction and enjoyment they gained from their involvement with the group.

I enjoy seeing the trees growing that we've put out. It's a feeling of self-satisfaction and achievement, and I've met some really nice people.

A lot of satisfaction, togetherness, a feeling of camaraderie, some hard work, some worries, no regrets and I've learned a lot for sure (Downside Landcare group members, September 1992).
However, there was a negative side to the question of involvement. Apart from not being involved in the group due to the costs and time commitment, some interviewees mentioned family commitments as a limiting factor in their involvement in the group (mentioned in Chapter 4). Others thought that their lack of skills or knowledge prevented them from becoming involved. One or two respondents spoke of the time clashes between landcare activities and farm work, especially with regard to working bees which are held during the day.

Among those who were not members of the landcare group, non-involvement was largely due to extraneous factors. Four people worked full-time outside the area, two felt themselves to be too old and another had joined a different landcare group closer to where he lived. However, there were two people who had more fundamental disagreements with the landcare group.

Both of these non-members pointed out the expenditure pattern regarding government money and landcare coordinators. In their view, money spent on new cars and salaries was not going toward fixing landcare problems or implementing on-ground solutions: *I'd be a lot more involved in the landcare group if there was money to spend on the soil — not on experts.* Earlier, this respondent spoke in more detail about this problem:

*The money is not getting to the ground. I don't see why we have to do these things — why spend a fortune on aerial mapping? It's a waste of money. The money is being spent on the wrong things* (Downside Landcare group non-member, September 1992).

It appears that there is more to this argument than meets the eye. Upon closer analysis I discovered that this landholder was not involved in any local activities. He was a relative newcomer to the area and did not share common beliefs in farming practice with his neighbours. Moreover, he was not linked into many of the local networks appearing in Figure 7.3 (Chapter 7).
Turning to the products or achievements of the Downside Landcare group not mentioned under any of the categories above, there were a number of unexpected outcomes. Take, for example, the community spirit or pride in the district which many interviewees spoke about with reference to landcare. Members saw Downside as not just a nice place to live, but as a cohesive community built upon a series of informal ties made formal with the advent of landcare. Although there were other local networks before the landcare group started, they centred around belonging to a church or playing tennis. For those who were not linked into either of these socially cohesive networks, landcare proved invaluable as a way of identifying with other community members (see Chapter 7).

Another important outcome for the group was the increasing interest in landcare from wider cross-sections of the Australian community. Academic interest in the Downside Landcare group came from Charles Sturt University as well as from the Australian National University. General attention to the landcare movement has also been increased through the network of landcare coordinators in New South Wales and Victoria. While not in itself a bad thing, unchecked academic attention to rural communities can lead to burn out in the communities and perhaps contribute to an artificially high level of self-awareness in ‘target’ communities.

5.9.3 Mitchell River outcomes

As with the other two groups, focus group participants were first asked to list the goals and objectives of the Mitchell River group. The following list is the complete register of their responses:

♦ To encourage sustainable development.
♦ To identify issues and stakeholders in the watershed.
♦ To look after the watershed.
♦ To establish cooperation among the users.
♦ To identify resources in the catchment and minimise [adverse] impacts.
♦ To recognise and respect cultural heritage.
♦ To educate existing stakeholders about sustainable land use practices.
♦ To get everyone together talking.
To prevent further degradation.

To recognise and promote the bottom-up (community control) approach.

To save the environment for future generations.

To save fisheries regarding the declining fish stocks.

To make a public plan for the catchment.

The next step for focus group participants was to prioritise these goals in terms of which were the most important to achieve. This was done by assigning ‘$100’ to each participant to ‘spend’ as s/he saw fit — either as a lump sum or spread across a number of goals. Five goals stood out as priority areas and were chosen for further analysis. In rank order, the following goals were listed:

1. STEWARDSHIP
2. COMMUNITY-BASED APPROACH
3. EQUITY FOR FUTURE GENERATIONS
4. SUSTAINABLE DEVELOPMENT
5. COOPERATIVE APPROACH

The top two goals scored equally when prioritised as did the last two goals. However, given time restrictions during the focus group session, only the first three goals were discussed further. Both good and bad points relevant to each goal were discussed and then participants rated the effectiveness and efficiency of the group in working toward each goal (see Tables 5.11–5.13). The discussion was recorded onto flip-chart paper as for the previous two groups and is replicated below.

1. Stewardship

It was not immediately clear how the goal of stewardship related to the comments (in Table 5.1) made by participants as ‘good’ or ‘bad’ points. In ‘looking after’ the catchment, focus group participants obviously linked the establishment of the Mitchell River group as a first step toward environmental stewardship. In terms of mounting projects and safeguarding the environment, members saw a definite need for a community-based cooperative approach. This theme was echoed in interviews with other group members who pointed out that now the group is well-established,
Table 5.11: Mitchell River Goal 1 — Stewardship

<table>
<thead>
<tr>
<th>Bad points</th>
<th>Good points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem of distance</td>
<td>Improvement in discussion</td>
</tr>
<tr>
<td>No regular face to face contact</td>
<td>Getting stakeholders together</td>
</tr>
<tr>
<td>Hit and run meetings</td>
<td>Appreciation of other stakeholders’ problems</td>
</tr>
<tr>
<td></td>
<td>Talking with not talking at people</td>
</tr>
<tr>
<td></td>
<td>Gained a facilitator</td>
</tr>
<tr>
<td></td>
<td>The group officially recognised by government.</td>
</tr>
</tbody>
</table>

Effectiveness

- - - - - - - - - - +

Efficiency

- - - - - - - - - - - +

there is more likelihood of projects taking shape which protect and enhance resources. However, focus group members recognised that the time taken for group members to get to know each other first was essential such that stewardship projects could be managed effectively.

Several interviewees mentioned the Chillagoe demonstration project on gully erosion, as an example of the group getting together to work on a stewardship project. Other people spoke more generally: recognition of the importance of looking after the river.

_"I’d be satisfied if nothing ever happens to the Mitchell River — just for the group to keep an eye on it. The message for the Queensland government is that it is good that the group was established before problems occur_" (Mitchell River group member, August 1993).

2. Community-based approach

Again, it is not altogether clear how the comments made under ‘good’ or ‘bad’ points (in Table 5.2) relate to the goal of recognising and promoting the bottom-up
CHAPTER FIVE — Community groups: processes

Table 5.12: Mitchell River Goal 2 — Community approach

<table>
<thead>
<tr>
<th>Bad points</th>
<th>Good points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitator has split alliances [to government and to the group]</td>
<td>Public awareness of work</td>
</tr>
<tr>
<td>Meeting sites [re distance across the catchment]</td>
<td>Meetings moved around</td>
</tr>
<tr>
<td></td>
<td>Big impact on government, eg. CYPLUS</td>
</tr>
<tr>
<td></td>
<td>Obtained funding</td>
</tr>
<tr>
<td></td>
<td>Provided a role model for governments</td>
</tr>
<tr>
<td></td>
<td>Cross-cultural issues raised — re Aboriginal community</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effectiveness</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Effort</td>
<td>++</td>
</tr>
</tbody>
</table>

approach to watershed management. However, focus group participants obviously saw a need for greater community awareness of the group and its projects. If meetings circulated around the catchment rather than staying in any one area, greater community participation due to an expanded community base would result, thereby allowing more residents to have a say in how the watershed should be managed. Focus group participants also felt that position of the Mitchell River group — being the first Queensland community-based group to become active in catchment management, was critical for community-based environmental stewardship. Hence their comment about having an impact on government and providing a role model for decision-making. Rather than waiting to be consulted by government representatives, members of the focus group felt that they had already taken steps to proactively engage government departments in listening to and acting upon the ideas generated within the watershed. This came about in part through the group acting as an avenue or focal point for government departments to interact with local people,

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1 The Cape York Peninsula Land Use Study (CYPLUS) team have had on-going relationships with the Mitchell River group members about issues affecting the catchment and their style of community based planning.
but also through the enlistment of government representatives as members of the
group not merely advisers.

Although increased awareness was cited in the focus group as an example of the
push for community control, it was not emphasised as much as it was in the
interviews. There were numerous instances where 'more awareness' was raised as a
result. In terms of the method used to raise public awareness, group members spoke
of the importance of the brochure as an identifying feature of the group. They also
mentioned articles in the Cairns Post, talks given at Rotary meetings, information
stands put up at horse races and rodeos, field trips, the role of the new logo and the
necessity for signs to be erected. One person said:

\[ \text{There is} \] higher awareness of catchment management within
the region and how individuals and groups can participate in
catchment management.

3. Equity for future generations

Focus group participants pointed to the establishment of the Mitchell River group as
a tool for working towards 'saving the environment' for future generations.
However, in contrast to the previous comments about goals 1 and 2, group members
realised the untapped potential in the group for more action toward achieving this
goal. These were listed under 'bad' points but really indicate that a change in
emphasis may be required. Focus group participants devised new strategies toward
encouraging more local involvement in designing the future of the watershed,
through involving more children and young people in group activities.

Without the two Aboriginal members of the focus group, it is unlikely that the goal
of saving the environment for future generations would have achieved the
prominence that it did. When ranking the first list of goals (above), both Aboriginal
focus group participants rated this item very highly. That served to reorient the
others in the group toward thinking about longer term needs and the design of
current strategies to address future land and water management issues.
Table 5.13: Mitchell River Goal 3 — Equity for future generations

<table>
<thead>
<tr>
<th>Bad points</th>
<th>Good points</th>
</tr>
</thead>
<tbody>
<tr>
<td>No comprehensive education project</td>
<td>Logo competition involved children</td>
</tr>
<tr>
<td>More people need to be involved</td>
<td>MR group is together and talking</td>
</tr>
<tr>
<td>Need more young people to be involved</td>
<td>Loyalty in the group</td>
</tr>
<tr>
<td>Lack of time now [to do anything about it]</td>
<td>The snowball is growing</td>
</tr>
</tbody>
</table>

Effectiveness

<table>
<thead>
<tr>
<th>Efficiency</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>

5.10 Summary

This chapter began with the processes whereby community groups form and concluded with a resume of group outcomes. Members reflected on what their group had achieved during interviews, out of that process a number of prominent outcomes have emerged (Table 5.14).

Table 5.14: Outcomes specified by group members during interviews — all interviewees

<table>
<thead>
<tr>
<th></th>
<th>WW</th>
<th>DL</th>
<th>MR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Education</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Legitimacy</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Cohesion</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Funding</td>
<td></td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

Key: ● Major importance ● Some importance ● Minor importance
In summary, it is appropriate to discuss the phases of group development with reference to the three case studies, and conclude with an overview of the processes by which the groups work.

Theories of group dynamics have illustrated that there is a series of developmental phases that groups go through between formation and maturity (Auvine et al 1977; Chamala and Mortiss 1990; Benson 1991). These phases have been typically characterised by organisational behaviourists and management consultants as: forming, storming, norming, performing and mourning — indicating the types of group dynamics acted out in each phase (Watson, Vallee and Mulford 1981). However, the language and philosophy of community development practitioners is more attuned to the development phases of voluntary groups (Christenson and Robinson (eds) 1980; 1989). Chamala and Mortiss (1990), in a study which specifically relates to landcare groups, suggest that group phases follow their 'participative action model'. The stages which they propose include:

1. **Emergence**: individuals notice problems, issues get discussed, ideas are generated on how to handle the difficulties, meetings and workshops are held.

2. **Establishment**: the group is founded as an entity unto itself, leaders emerge and members adapt to the style of leadership demonstrated, organisational structures and project plans are discussed.

   Interpersonal conflict emerges during this stage as people try to express their individuality and resist the emerging group structure. Members may suddenly express long-held antagonisms, competition for leadership and influence will develop, and cliques may form (Chamala and Mortiss 1990:18).

3. **Action**: members work cooperatively, and complementary skills and knowledge are recognised, resources are gathered, projects are implemented, mature relationships develop and the group may evolve through different leadership and structural arrangements.

4. **Expansion or extinction**: groups either undertake new projects and functions, or become redundant when their current projects are completed. Either way, the group undergoes a transformation.
These phases are sufficiently descriptive and appropriate for the groups in this study. Based upon the evidence presented in this chapter, I believe that Water Watchers undertook several cycles of monitoring water quality in the action phase, but then declined in membership, resources and energy. The Downside Landcare group evolved through all four phases and has subsequently expanded its organisational structure and project development. And lastly, the Mitchell River group is still in the process of moving between establishment and action phases. This conclusion is reached on the basis of each group’s process which gradually emerged during fieldwork. The importance of these key elements of group process are critical to group function, as illustrated in Table 5.15. Items listed as being of major importance to group function can be interpreted as having a significant detrimental or beneficial effect to the overall ‘success’ of the group.

Table 5.15: Importance of group processes to group function

<table>
<thead>
<tr>
<th>PROCESSES</th>
<th>WW</th>
<th>DL</th>
<th>MR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual members</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivation to join group</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Skills</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Attributes</td>
<td></td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Factors restricting involvement</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Group structure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Composition of membership</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Number of members</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Leadership</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Conflict</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Decision-making</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Representativeness</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Education and training</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Goals</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Projects</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

Key: • Minor importance • Some importance • Major importance
Government: profile and processes
Photograph by: David Eastburn, Murray Darling Basin Commission
Flooded Murrumbidgee River at Gundagai, NSW.
The role of governments in relation to each of the case study community groups under analysis concludes the empirical part of this thesis. This chapter presents a profile, the processes and products of government involvement in local environmental management in the same way as did Chapters 4 and 5 for the community groups themselves. It is shorter than the previous two chapters because government involvement in environmental management was not the primary focus of this research. However, the same format is followed as for the previous two chapters. Section 6.1 describes the policy context in which each of the groups operated. The profile in section 6.2 sets the scene for government involvement in community-based environmental management by describing the agencies who participated in each group and illustrates some general trends and roles. Section 6.3 describes the processes of government involvement such as resourcing, facilitating, advising, consulting and informing. Lastly, section 6.4 outlines the outcomes or products of government involvement with the case study community groups. Chapter 6 provides the empirical grounds for discussion of the principles behind government involvement in community-based environmental management which are reviewed in Chapter 8.

6.1 Policy contexts

Some general observations can be made which reflect national and international trends for setting policy about community participation in environmental management. Firstly, the global drive for sustainable development, discussed more fully in Chapter 2, undoubtedly affected national and state government policies and encouraged more community involvement in decisions about local environmental management. Principles of integration, participation, partnership and coordination have also arisen in other policy contexts and have been voiced in the National Conservation Strategy for Australia (Department of Home Affairs and the Environment 1984), in the National Strategy for Ecologically Sustainable Development (Commonwealth of Australia 1992), the Inter-governmental Agreement on the Environment (Council of Australian Governments 1992), the Rio Declaration on Environment and Development (United Nations 1992) and at the International Conference on Water and the Environment (cited in Mitchell and Hollick 1993).
Table 6.1 illustrates the Australian history of involving the community in decision-making on environmental matters.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1974</td>
<td>Environmental Protection (Impact of Proposals) Act (Commonwealth) provided for limited (reactive) community participation.</td>
</tr>
<tr>
<td>1979</td>
<td>Environmental Planning and Assessment Act (NSW) first major environmental framework for public participation in NSW.</td>
</tr>
<tr>
<td>1984</td>
<td>Publication of the National Conservation Strategy for Australia establishes the grounds for public participation in both government and private sector decisions.</td>
</tr>
<tr>
<td>1986</td>
<td>State of the Environment in Australia 1986 reported public participation in terms of statistical measurements of attitudes and perceptions to environmental problems.</td>
</tr>
<tr>
<td>1987</td>
<td>Landcare endorsed and promoted by the Australian Conservation Foundation and National Farmers Federation.</td>
</tr>
<tr>
<td>1989</td>
<td>Prime Minister Bob Hawke’s Statement on the Environment: Our Country Our Future made a financial commitment to cooperative action between community and government environmental management.</td>
</tr>
<tr>
<td>1991</td>
<td>A nation wide public consultation program took place as an important part of the Ecologically Sustainable Development strategy.</td>
</tr>
<tr>
<td>1993</td>
<td>Waterwatch — a National water quality monitoring program emphasised environmental education and community awareness.</td>
</tr>
</tbody>
</table>

6.1.1 Policy context — water quality monitoring

It is difficult to trace the development of water quality monitoring policies affecting Water Watchers since the group evolved prior to the evolution of the State government ‘Ribbons of Blue’ program in which school children monitor water quality as part of their educational curriculum (Office of Catchment Management 1992). Water Watchers was also established well before the federal government’s Water Watch initiative. Despite the difficulty in establishing the precise policy context from which Water Watchers grew, there are several local factors which pre-empted the group’s formation. First, local residents believed that they were being
blamed by government officials for nutrient enrichment. Second, the Office of Women’s Interests in Western Australia were interested in establishing cooperative programs between local women’s interests and environmental issues. Third, various ‘watch’ activities occurring in other parts of Australia had set precedents for involving both adults and school children in monitoring some aspect of the local environment, eg. Saltwatch and Frogwatch. These in turn had grown from environmental education initiatives in the United States and from the establishment of the Global Rivers Environmental Education Network (GREEN) (Terry White, Consultant, *pers comm*, April 1994). Lastly, the Western Australian government had adopted Integrated Catchment Management as policy in 1988 after a national workshop on catchment management earlier that year (Hollick and Mitchell 1991). Subsequently, officers from the Office for Catchment Management (OCM) became involved in assisting Water Watchers to become established even though funding under the ‘Ribbons of Blue’ program had not yet been released. Thus, the Water Watchers group did not grow out of a policy context so much as out of a problem context.

6.1.2 *Policy context — Landcare*

In documenting the principles and processes of the Downside Landcare group, it is imperative to understand the policy context from which landcare arose in order to gain a broader perspective about the goals and policies of landcare. Much has been written about how and when landcare started and more especially, who was responsible for it. Without pinning it down to an actual date, it is more accurate to paint the soil conservation atmosphere which led to group formation, which in turn led to landcare. Soil conservation activities started as early as the 1930s and 1940s in Australia, but it wasn’t until 1983 that the National Soil Conservation Program was launched to prevent and control land degradation (Graham 1989). In 1985, the *Commonwealth Soil Conservation Act* focussed national attention on the plight of the land. Then, in an historical union in 1987, the National Farmers Federation (NFF) and the Australian Conservation Foundation (ACF) agreed that land degradation in rural Australia was overwhelming. Out of their collective concern (and based on farmer group experiences in Western Australia and Victoria), landcare was born and adopted by the federal government. In 1990, the Decade of Landcare was
announced and $360m allocated to a program which was to 'tackle land degradation and develop more sustainable land management practices' (Campbell 1992b:i).

Since 1990, numbers of landcare groups have been increasing, as noted in Chapter 1. Indeed, at a youth and landcare conference in Queensland in March 1993, there were so many schools doing so many different landcare projects, one could be forgiven for not completely understanding what landcare was about. When asked to define what landcare meant to them, students had a variety of answers. To some it was about planting trees, to others it was about the productive capability of the soil, or about providing habitat for native wildlife or even about 'saving the world' (Biloela Youth for Landcare conference, March 1993). But landcare in schools is only part of the picture — a much greater role for landcare lies in improving productivity and conserving the environment on properties all over Australia.

The National Landcare Program distributes money to community groups, state government agencies and others through a competitive grants scheme. There is also a National Landcare Facilitator, a National Landcare Advisory Committee, Landcare Australia Limited and an annual awards system for schools, individuals, groups and the media. Landcare groups are not part of a social movement (Lockie 1992), but they are part of a widespread Australian phenomenon concerned with the interdependent relationship between environment and productivity. To underscore the original objectives of the NFF and ACF agreement, there are productivity gains to be made when considering the long term health and sustainability of agricultural resources. Not only does this principle impinge on future land use decisions, but a focus on present social and environmental issues can offer short term, practical steps to community action on land degradation issues which can offer a route to sustainability. After all, cultural and natural landscapes are interlinked. Over time each has helped to shape the other and will continue to do so. Landcare is about caring for the land. That requires an ability to understand the current environmental problems within the social and historical context which has shaped them (Baker and Lane 1993). Therefore, landcare is also about caring for community.
6.1.3 Policy context — catchment management

In contrast to the landcare movement, very little has been written from a social science perspective about integrated catchment management (ICM). State programs for ICM exist in Western Australia and in Queensland. In New South Wales, a program for Total Catchment Management (TCM) was the first to be legislated in 1989. Victoria has developed catchment management not along strict biophysical catchments, but often around salinity control sub regions and working groups. This is illustrated well in the publication *Salt Action: Joint Action: Victoria’s strategy for managing land and water salinity* (Government of Victoria 1988). Other state governments are on their way to implementing ICM programs, or are waiting to learn from the experience of other states.

Catchment management has its historical roots in water boards of urban areas dating back to the nineteenth century and in river improvement boards of the twentieth century (eg. *River and Foreshores Improvement Act* 1948). Water authorities were established to resolve conflicts between and among different categories of water users. The most notable example of this is the River Murray Commission set up in 1917 (Powell 1993). However, it has been comparatively recently that integrated water and land management has been advocated, for example with the establishment of the Murray-Darling Basin Commission in 1985. Attempts to integrate land and water in statute law within natural resource management programs in government agencies have also been made (Dalton 1992). Hollick and Mitchell (1991) distil the common attributes of integrated catchment management as incorporating; a systems approach, a stakeholder approach, a partnership approach, a balanced approach and an approach ‘in which attention is directed to key issues and variables, rather than all issues and variables’ (Hollick and Mitchell 1991:2). New examples of intrastate and interstate government agreements have put integrated catchment management at the top of the ‘to do’ list for many public and private agencies engaged in water resource planning and management. However, integrated catchment management does not really boil down to an institutional arrangement:

If integrated catchment management is to be successful in Australia, it will have to be based on a bottom-up approach,
in which individual landholders, each doing his own thing and cooperating with his neighbours in subcatchment and catchment groups, form the essential foundation of a pyramid structure reaching up through catchment and regional levels to State and Federal Governments. Australians have always prided themselves on being do-it-yourselfers. Catchment management, more than any other aspect of water and land resource management, must, in the final analysis, and despite all the rhetoric about cooperation and coordination, be very much a do-it-yourself business (Burton 1992:8).

Catchment management involving local people in local issues by way of catchment committees and groups is seen to be one way of achieving a more sustainable Australia. However, the philosophy and processes by which ICM occurs vary tremendously across states. The variety of funding programs reflects the lack of a national, coordinated policy (Mitchell and Hollick 1991; Syme et al 1993). One common method used to instigate integrated catchment management approaches within a local context is for government agencies and professionals to seek out local resources, or to ‘facilitate groups into existence’:

Substantial local expertise is available, which can be ‘captured’ by interview and transferred to the system (Anon 1991:3).

Another method encourages local people to establish catchment groups and committees independently of government, and then invite government representation as technical advisers. Some committees are comprised of representatives of every conceivably relevant government department, industry sector and community faction. Others are smaller, may not call for representatives, and comprise community irrigators independent from government departments. The permutations and diversity among integrated catchment management models is endless and reflects a ‘social response’ (opposed to an economic or legislative model) which ‘seeks to shape public attitudes through normative persuasion rather than prescriptive direction’ (Synnott 1991:43). In other words, rather than legislating, governments are deferring their environmental responsibilities to community groups who have a wide range of local needs and environmental contexts. In short, social,
environmental and economic problems of reduced productivity and declining land and water quality are forcing governments to investigate new ways of managing natural resources in a more integrated fashion, hence ICM. But is it enough? The rest of this chapter investigates the profile, process and outcomes of government involvement with community groups in relation to the three case studies.

6.2 Profile of government involvement

Throughout the history of each case study community group, there have been various levels and degrees of government involvement, from local through state and federal and even interstate involvement. Due to the locality of the groups, there has always been a strong relationship between group members and local government officers and between group members and state government agencies situated regionally, while relationships between community group members and Commonwealth government officers and agencies were less common. This has resulted in relationships which are state government-oriented and belie the fact that much of the financial support of community groups originates from the Commonwealth, either directly through programs such as the National Landcare Program (Community Grants), or indirectly through a cost-sharing arrangement with individual states and territories. However, land and water resource management functions are primarily state responsibilities under Australia’s constitutional arrangements. At different times with the operation of the three community groups, members have drawn from the expertise and resources of:

Water Watchers

Western Australian Office of Women’s Interests (OWI)
Western Australian Office of Catchment Management (OCM)
Victorian Salinity Bureau (VSB)
Serpentine Jarrahdale Shire Council (SJSC)
Western Australian Dept of Agriculture (WADA)
Western Australian Water Ways Commission (WWC)
Australian Bureau of Meteorology (BoM)
Water Authority of Western Australia (WAWA).
Downside Landcare

New South Wales Dept of Conservation and Land Management (CaLM)
New South Wales Dept of Agriculture (DoA)
New South Wales Dept of Water Resources (DWR)
Greening Australia (GA, a non-government organisation)
Murray-Darling Basin Commission (MDBC, joint State–Commonwealth)
Junee Shire Council (JSC)

Mitchell River

Queensland Dept of Lands (DoL)
Queensland Dept of Primary Industries (QDPI)
  Fisheries Branch
  Land Conservation Branch
  Water Resources Branch
Queensland Dept of Environment and Heritage (DEH)
Queensland Dept of Business, Industry and Regional Development (DBIRD)
Queensland Dept of Minerals and Energy (QDME)

6.2.1 Water Watchers profile of government involvement

The Office of Catchment Management in Western Australia took a lead role in helping get Water Watchers ‘off the ground’ through the initiative of one of their junior officers. She was primarily responsible for coordinating the initial meeting with a local resident and a shire councillor. This was accomplished through her network of colleagues and ‘out-of-hours’ friends/acquaintances. After she ascertained the interest in, enthusiasm for and direction of the project, she liaised with the Office of Womens’ Interests for seed finance and subsequently wrote draft submissions which were discussed with the other two members of the working group. Although the Office of Catchment Management did not provide any financial assistance, they provided human resources which assisted the group in receiving funding for their 1991 project.

An application was submitted to Office of Womens’ Interests in late 1990. The Office of Women’s Interests subsequently forwarded a cheque to Water Watchers for their first year of operation in mid February 1991. Although OWI was not present at group meetings, their financial support contributed to the success of Water Watchers in its first year. The Department of Agriculture’s relationship with Water Watchers was in most part through the staff and facilities based at the Community...
Catchment Centre (CCC) in Pinjarra. 'The Centre while funded through the Department of Agriculture, has a distinctly non-departmental air about it, and is home base for people from other agencies, and groups such as Greening Australia' (Bradby 1992:144). It is a red-brick house situated on the main road and emphasises communication, access and coordination of government effort combined with local community ownership. The coordinator of the Centre played a crucial role in assisting Water Watchers via provision of staff with facilitation skills. After the first meeting of the working group, an employee of the Department of Agriculture based at the Centre undertook group facilitation via minute keeping, liaison with members, provision of technical assistance and provision of other human resources and support. The facilitator's role is detailed further below. The Community Catchment Centre is critical to the group through its capacity to liaise with many different government departments, and 'interpret' this information back to the community and vice versa.

The Serpentine Jarrahdale Shire Council was involved with Water Watchers at the very beginning through an active shire councillor who was present at the first meeting and responsible for liaising with the Community Catchment Centre. One of the Shire's fundamental objectives in supporting Water Watchers was to provide the Council with some factual data for their land information base and rural strategy regarding phosphorous loads entering the Peel Harvey estuarine system. The Shire provided the group with a meeting room and local cadastral information from its planning department.

The Victorian Salinity Bureau played a minor but important role in the development of Water Watchers. A senior member of the Bureau was instrumental in setting up the Office of Catchment Management's 'Ribbons of Blue' program. Through his contacts with the OCM and its contacts with the CCC, a meeting was arranged between him and the newly forming Water Watchers group to discuss strategies. The Salinity Bureau's representative advocated the involvement of primary school children in monitoring the 'Autumn Slug', hence the establishment of Slug-Busters. He also advocated 'input–output' monitoring to assess the nutrient load going into
the water at a specific site and coming out at the bottom of that stream or drain. In this way the additive effect of different land use patterns could be observed.

The Water Ways Commission was invited to attend one of the first meetings of Water Watchers to advise on technical matters associated with water quality monitoring. A representative of the Water Ways Commission reassured the group that it was not necessary to stay at the same drain for hours on end in the monitoring process. Instead, he advocated the use of ‘snap-shot-sampling’, in other words, repeated short visits over a longer period of time. He also spoke generally about the objectives and processes characteristic of a water sampling program. The Water Ways Commission advised the group to:

1. identify catchments;
2. select sites (and identify subcatchments with particular land uses);
3. establish cross-sectional areas of the drains at the sampling sites;
4. collect nutrient samples and measure stream velocity with an orange, (later modified to a gumnut);
5. compute instantaneous load;
6. compute instantaneous loss rate for each sample;
7. compare results.

Some of the equipment promised the group by the Water Ways Commission never arrived. However, on the basis of this meeting, Water Watchers members had a clearer perception of the task ahead of them. Lastly, the Water Authority of Western Australia were involved with the group in a minor capacity. Although interested in collecting accounts of phosphorus loads for the area, they did not initially accept the resulting data as an accurate account of existing phosphorus loads at first. Later, they were prepared to accept Water Watchers results when compiled with data from the Community Catchment Centre and this enabled group members to see that they were fulfilling a legitimate and necessary local function.

6.2.2 Downside Landcare group profile of government involvement

The New South Wales Soil Conservation Service, a statutory authority which used to be widely known as ‘Soil-Con’ was absorbed into the Department of Conservation
and Land Management (CaLM) in 1991. Officers from the Soil Conservation Service took a lead role in encouraging some farmers from the Downside Agricultural Bureau to go on a bus trip to Benalla and other parts of north-eastern Victoria to look at land degradation. Many Downside Landcare group point to this initial impetus as the catalyst for group establishment. CaLM provided support and resources to the Downside Landcare group since its inception, both in terms of administrative support for the facilitator's position, providing maps, conducting farm planning workshops and liaising on a one to one basis with landholders requesting information. Many group members have personal contacts with government officers from this department who were highly respected locally. Of all the departments mentioned by interviewees, it had the highest number of individuals officers known personally by group members.

Other state government representatives (for example agronomists from the Department of Agriculture) have also played a key role in supporting the Downside Landcare group. However, there were fewer of these people to whom individual landholders could turn to for advice and information, simply because the extension base in the area had contracted substantially over recent years. The Department of Water Resources were brought in to support the Green River Banks project in conjunction with Greening Australia. However, departmental representatives did not liaise on a regular basis with the group. Interestingly Greening Australia, a non-government organisation, was not perceived by interviewees to be any different from other government departments. Although the officer from Greening Australia was well-known and locally recognised, many interviewees mistook him for a government employee. The Murray-Darling Basin Commission were recognised by the group as a funding body, however there was no direct role for the Commission locally. On the other hand, the Junee Shire Council was locally involved with the group, but not actively. The Shire Engineer from Junee was elected to the Executive Committee of the Landcare group, but apart from one or two initial appearances was rarely seen to contribute. Lastly, the New South Wales Department of Business and Consumer Affairs were necessarily involved at arms reach when the group put in an application to register as a business.
6.2.3  Mitchell River group profile of government involvement

Government representation on the Mitchell River group was always strong. This was largely due to the initial conference hosted by the Kowanyama Land and Natural Resource Management Office (KALNRMO), which many government representatives attended. The Queensland Department of Primary Industries was a major player in supporting the Mitchell River group. This was partially due to the presence of the facilitator who was based within the Department, but also because it is this agency which has primary responsibility for catchment management. The Department partially funds the facilitator’s position and provides administrative and technical support to the group via its many representatives on the group. The Department of Environment and Heritage also plays a supportive role locally, especially through the Park Ranger’s position at Chillagoe which is near the middle of the catchment. Officers from this Department patrol the lower half of the region and liaise on a regular basis with the Kowanyama community about environmental issues including crocodile deaths, feral pig management, fire regimes and illegal fishing. The Department of Minerals and Energy patrol the upper half of the catchment on a regular basis. Officers from that Department report to the group’s facilitator whenever there is a mining problem in terms of acid leaching, stream-bank erosion. The Department of Lands is responsible for advice to the group on feral animals, weeds and property planning within the catchment. Of especial significance to the group is the control of the noxious weed, rubbervine, and the control of the feral pig population. The Department of Lands is interested in liaising with the Mitchell River group over local control mechanisms for these exotic species. Lastly, the Mareeba Shire Council also contribute advice and information to the Mitchell River group via a representative from its Planning Department and through the influence of a Shire Councillor with considerable local knowledge and experience. The issue of fragmentation of government responsibility, as clearly evidenced above, is raised further in Chapter 9.

6.2.4  Facilitation and involvement: a general profile

The role and position of the facilitator for each group is especially important given the many functions undertaken by this person. At one and the same time, s/he is a
government funded bureaucrat and a local member of the community hired to promote group development. Individual circumstance will dictate how an appointment is made and who directs or monitors individual performance, for example, a community group, government department or combination of both. Officers from other government agencies often perceived the facilitator of each group as able to work ‘outside the system’ in ways which were not part of public service practice. On the other hand, community members perceived group facilitators as peculiar kinds of government bureaucrats, they drove departmental vehicles, but worked ‘community hours’. The nature of the continuum between community member and government officer was quite different for each group facilitator. The Water Watchers facilitator had university qualifications in agricultural science and was keenly interested in community-based planning and local ownership. He was employed by the Western Australian Department of Agriculture (WADA) who appointed him to a position in the Community Catchment Centre. Funding for his position was purely from WADA and largely focussed on extension activity. Juggling several other duties, the facilitator was keen and enthusiastic to help Water Watchers become established.

The experience of the Downside Landcare group facilitator was very different. The Downside Landcare group appointed the facilitator after successfully gaining funds through the National Landcare Program (funded by the Commonwealth through the Department of Primary Industries and Energy). The appointment was made by a subcommittee of local landholders, and the appointee was a local person who possessed a teaching and farming background. She was appointed because she had good communication skills and an easy rapport with local landholders. Lastly, the Mitchell River group facilitator was appointed by the community group in conjunction with the Queensland Department of Primary Industries. He was appointed to the position from outside the catchment, had just gained a degree in environmental management and was perceived by group members as sufficiently ‘objective’ and tactful not to ignite the potential conflicts among group members. The backgrounds, role and personalities of each of the facilitators had an important impact on the nature of the relationship between government officers and group members (discussed further in Chapter 9).
Interviewees made several comments about group members’ dependence on the facilitator and other government officers. The Downside Landcare group facilitator, who shall be called ‘Shirley’ for this exercise, was also a local landholder in the district. This is how several members described her:

*Shirley is an inaugural part of the whole group, she puts in a lot of effort — she’d be in the group anyway, but if she was gone — the group would stumble.*

*Having a coordinator means that I don’t have to do all that tedious government paperwork. Although I’ve met others who disagree, now I can’t see how we could do without one.*

The Mitchell River group members shared this notion of being dependent on government agencies for some aspect of their work. One member spoke of there being: *a lot of involvement, we’re almost totally dependent on them advising us and we rely on them to regulate others doing [environmental] wrongs.* Another said:

*For the first two and a half years, they’ve been pretty useless, always promising things, but not contributing a brass razoo — always whingeing and whining. And [what’s] worse, not feeding back information about the group to Ministers and senior colleagues. Its a sad reflection* (Mitchell River group member, August 1993).

The position of government interviewees in the Mitchell River group differed from those in the other two groups in that they are group members as well as government officers. The category of ‘government officer’ attributed to Mitchell River group citations could therefore also be interpreted as ‘group member’.

There was considerable variation across the three community groups concerning the involvement of different government departments and agencies. Interviewees noted that it was often the individual officers representing these departments who liaised with the group and who were sought out by the group for support. Sometimes a group member would not recognise which department an officer represented: *is Shirley from a government body? I know she is linked with a government funded*
body. Often confusion would arise as to which department was involved. However, when officers' names were mentioned the community representative would respond with recognition and familiarity. It was the ease with which group members could communicate with and access officers within these departments which made most impact on the groups' evaluation of those departments:

There are excellent people in government, [but] they're stymied all the time — restricted by their boss, the budget, the minister etc. That's all they talk about to me — whether they can do this or that. I'd like to give the whole system a good shake up and blow all the cobwebs out of all the dead thinking people (Water Watchers group member, March 1992).

'The department' was often seen as an unknown entity, but John Doe, well there's someone who can really help you. This trend was especially noticeable in local government. Both the Mitchell River and Water Watchers groups had close working relationships with the shire council in their area. In Downside, although a Shire Councillor was officially a member of the group's executive committee, he rarely appeared at group meetings. This is likely to be due to the Downside Landcare group's geographic position which straddles two local government boundaries.

In answer to the question: 'What involvement has the group had with government departments and their representatives?' group members provided a different set of responses in each community group. Responses from Water Watchers reflected a certain divisiveness within the group:

We wouldn't exist without government departments, but I'm really frightened of government departments taking over.

[Government] should stay out of it as much as possible, it should be a liaison role [with] only those involved in a give and take relationship as part of the group, not directing the group (Water Watchers group member, March 1992).

On the other hand, group members had only the highest praise for the Community Catchment Centre: [they played] a significant role. It wouldn't have happened
otherwise. [There was] 50:50 involvement without them imposing direction. They contributed a lot of manpower. Another interviewee's comment reflects a deep sense of unease: Community groups are doing a job that governments should be doing.

In Downside, although there was general agreement that the level of government involvement was supportive and helpful, the nature of that involvement proved problematic for some members interviewed, especially regarding the process by which advice and technical information was passed to the group. Many group members were concerned that there should be more practical support and demonstrations at a level which was more appropriate to the landcare group. Concerning extension officers involvement, it was interesting to note the reaction of one group member who considered that there was an obvious divide between practical people 'off the land' and university trained specialists:

_I'd like to see more [involvement], but some people think they're interfering. They might read it out of books, but they don't really know practically_ (Downside Landcare group member, September 1992).

In all three community groups, there were quite different interpretations of the notion of government involvement and what that means in practical terms to the community groups. Before turning attention to the ideal role of government officers in relation to community groups, consider one last quote describing community—government relations:

_We liken it to two dogs smelling each other, [there are issues of] trust, jealousy of our autonomy, and there's room for improvement. Government relations took a lot of energy. There's been reasonable involvement, sometimes we thought it was inadequate and the suspicion and mistrust is still there. But we're gradually getting away from spending all the time building relationships_ (Mitchell River group member, August 1993).
6.2.5 **Ideal roles of government officers**

Both government officers and community group members were asked to identify what the role of government officers should be in a community group. The responses were analysed separately.

**The community group perspective**

There were 95 responses from 34 community group members to the question: ‘What do you think the role of government officials should be in the process?’ These ranged from: different government departments should have different roles and activities in the region — they should be collaborating and conferring at state level to define ultimate land use priorities, to: [government officers] should join in the social activities too, it breaks down the barriers. There were four main categories of response:

- Advice provision and education role: 32 responses
- Resource provision role: 18 responses
- Facilitation role: 14 responses
- Information dissemination role: 10 responses

The advice provision and education role included responses concerned with agricultural extension and advice via imparted knowledge and skills taught to community groups, such as: advice from Water Resources, people from DPI, cattle advisers, Department of Mineral Resources, all just in an advisory capacity. This advisory role was distinguished clearly by all three sets of community group members. The resource provision role included both financial grants, seed-monies and in-kind resource provision: organisational support, whiteboards, computers, photocopiers etc. There was a disproportionate number of responses concerning the role of resource provision from the Downside Landcare group (12) compared to Water Watchers (3) and the Mitchell River group (3). The facilitation role included facilitation of group processes, consultation, and administrative assistance: [we should] get people to be less afraid of confronting problems, encourage practical solutions [and] listen to and involve people more in solutions to problems. This was especially pronounced as a role for the Water Watchers group, but all three groups raised facilitation as an issue. Lastly, the information dissemination role was
identified by Water Watchers (6), and Downside Landcare group members (4), and not raised at all by Mitchell River group members. This category of response included: collecting information and directing it to people best equipped to make a decision. It also included the supply of relevant information and research to community groups.

The government officers' perspective
There were 109 responses from 30 government officers to the question: 'What role do you think government officers should have at community group meetings?' Note that although this question was worded slightly differently to that asked of group members, the categories were similar:

| Facilitation, administrative support, networking: | 27 responses |
| Advisory, provision of technical skills: | 18 responses |
| Information provision: | 13 responses |
| Resource provision: | 8 responses |

It is difficult to report any trends in response patterns due to the imbalance in numbers of government interviewees in each group. However, it is interesting and noteworthy to report the range of 29 miscellaneous comments concerning the nature of group–government relationships from government interviewees' perspectives. Many respondents answered in the negative stating that government officers should not have a clear role and should not have any leadership responsibilities (12 responses):

*A government officer can volunteer to do things — up to the point at which he or she takes control away from the group. He or she should not display initiative if it detracts from the group's ability to control its own destiny, or if they are doing too much — getting the group off the hook. The group should do as much as it can for itself — up to the limit* (Downside Landcare group government officer, September 1992).

Other miscellaneous responses included several which indicated that the nature of group–government relationships depended on group goals and objectives, local needs and conditions, and local issues. Others directly contradicted this idea, saying that
group—government relations were entirely dependent on the government department involved and provided the reason for that individual officer being invited in the first place. One respondent half contradicted the anti-leadership stance taken by the majority of government interviewees: *you shouldn’t lead them but in initial meetings they might need leadership to get the group started.* Several interviewees stated that government officers’ roles at group meetings depended upon whether that officer was a stakeholder in his/her own right: *it varies, depending on whether the officer has been specifically invited to be a member of that group because of their personal qualities, or is there as a person dobbed in by their department to attend, when they are not interested.* Several officers proffered the view that government involvement in community groups was fine as long as the officer involved was invited by the group and did not attend on a regular basis, only when requested from time to time. Another person stated that an officer should always be there, and if a specific person is unavailable, they should send a representative in their place.

The diversity of answers to this question was striking and reflects the confusion many government interviewees seemed to feel as to whether they were entitled to participate actively in the group or whether theirs was purely a passive or supportive role. One respondent was so concerned that he provide the ‘right answer’ to this question that he succeeded in confusing even me with a series of qualifying statements and addendum to his own beliefs:

*It varies with the personal style of the officer and [also] depends on the groups needs. If they’re invited as government officers, they should represent their agency and what it stands for — be able to help the community clarify its position and gain the information needed. [But] if they’re there as members of the group, there’s no specific role — but [they’re] not allowed to speak against your department. [It could be] information provision, as long as that is what the group wants. [They could] propose suggestions to take the group forward, for example with project management if the group is floundering. They shouldn’t give real tight direction to the group, but provide a number of options. [They could also play a] facilitatory role — not just warm and fuzzy though. [They could] operate cooperatively with other government people there (not confronting [them] in front of the group) — it’s a supportive role, behind the scenes thing.*
[And they could play a] clarification role — to help the group see their way forward (Mitchell River group member, August 1993).

The ideal profile of government involvement in environmental management obviously differs depending on whose perspective is taken into account. Community group members emphasised resource provision and advisory roles, while government officers emphasised the facilitation and advisory roles. The next section attempts to understand more of the complexities underlying this difference.

6.3 Processes of government involvement

Through an analysis of responses to questions of government involvement and community ownership directed to government interviewees, this section details how governments assist community groups, based on evidence from the three case studies. There were two questions asked during interviews which inform this issue. The first question was: ‘In general whose responsibility is it to assist community groups (Specific government departments, private sector, other local groups, etc)?’

The 110 responses reflect several key trends in the data:

- Miscellaneous: 20 responses
- Community groups/members themselves: 18 responses
- State government: 18 responses
- Local government: 15 responses
- Collective or shared responsibility: 12 responses
- Private sector/industry: 10 responses
- Government generally: 9 responses
- Federal government: 8 responses

Miscellaneous responses included: universities — in conjunction with government instrumentalities especially rural [ones] like the Charles Sturt University, or [it is the] individual elector’s responsibility to "keep the bastards honest" and put money into worthy places, it is the individual’s responsibility to become involved enough to know that government has responsibilities back to community groups. One of the two most frequent responses named the community group as responsible for itself:
they should assist themselves — government's resources are getting smaller so they've got to keep themselves going and do the best they can. Or:

People feel that control and responsibility has gone out of their own hands and communities, now the 'they' of institutionalised structures have taken control away. To bring it back into individuals and communities, some will feel that it is being dumped on them and government is copping out. But it is important for people to bring the control and responsibility back... the environment [issue] does have the potential to do this because of local knowledge vested in local people (Water Watchers group member, March 1992).

Separate state government departments and authorities were specifically mentioned with the proviso that when assisting community groups, there should be a 'horses for courses' approach, involving the appropriate departments as/when necessary: relevant state government departments, for example Water Resources Commission, Department of Primary Industry, Forestry, Local Government and Housing, Planning [departments]. The next most frequent response was that it was local government's responsibility to assist community groups, usually based upon the respondents perception that this tier of government was closest to the community and therefore should be responsible for providing local support such as meeting rooms and equipment. Comments relating to the private sector's responsibility to assist community groups included: one could argue that they [the private sector] have a social responsibility or corporate sponsorship has a role in recognising the value of degraded environments in the sense of providing compensation. There was also a clear trend which identified a cooperative or collective responsibility between governments and the community group: government agencies should assist if they're involved with the issue of the group. Where there is strong overlap with the issues of the community group — there should be cooperation and negotiation. Several respondents suggested that assisting community groups to undertake environmental management was everyone's responsibility.
6.3.1 Governmental assistance for community groups

The second question asked of government interviewees was: ‘What role should government play in assisting community groups?’ In the analysis, I separated the 174 responses into 4 major roles and 4 minor roles as follows:

**Major roles**

- Resourcing (seed monies, machinery loans, office equipment) 50
- Facilitating (group dynamics, consultation, administration) 37
- Advising/training (skills & technical expertise) 24
- Informing/networking (dissemination and provision of info.) 14

**Minor roles**

- General support (practical assistance) 9
- Partnership/liaison (contracts, sharing roles) 4
- Legislative/regulatory (new laws, liability) 5
- Other/miscellaneous 31

The categories are best described directly from the interview data as:

**Resourcing:** providing a basic [monetary] incentive; provision of other resources.

**Facilitating:** assistance with goal-setting, providing feedback mechanisms; there is an obligation from government to listen to community groups and take them seriously and show them how their contribution fits into an overall picture.

**Advising/training:** provision of broad policy guidelines; specific technical expertise as requested and available; provision of information on the state of the local environment.

**Informing:** bringing other communities’ experience in — why reinvent the wheel?; information distribution.

**Support:** practical support; consciously avoiding giving direction and avoiding the assumption of problems.

**Partnership:** community groups sharing significant and constructive roles; partnership role, government helping with complex, widespread issues.
Legislative: Government has a responsibility to see the health of the river lifted; government can put pressure on people via regulations.

Miscellaneous responses to the question of governmental assistance were quite elaborate, ranging from: they don't have to play any [role] — often groups can exist without government, to a role for the: cooption of ‘troublesome’ community members by the bureaucracy. There were several comments relating to provision of governmental assistance under certain conditions. Some officers believed that governments should only provide assistance to groups which coincided with government policy:

Government have to sit down and ascertain is this group worthwhile — and then how worthwhile it is — and then depending on the degree of benefit to the community — give appropriate support (Mitchell River group government officer, August 1993).

You cannot generalise on this — it depends on the issue, the focus, the intent, the group, etc. I think it unreasonable to expect government to support in any way [community group] meetings to plot the overthrow of the government, for example. But for matters that government approves of, then provision of all of the above [assistance] would be reasonable (Water Watchers group government officer, March 1992).

Other miscellaneous comments reflect a role for government which legitimises and respects the work of community groups, for example, through government publications or a prize. Still others believe that there is a role for government to justify its decisions to community groups, and to provide an example which community groups can follow. Other roles identified for government are the: interventionist role, ie. the creative management of the public good, where for example, governments: recognise the lobbying from groups whose motives are not purely economical. There were also several negative comments: government can't do a real lot, or [government] can't do it with a big stick. One person suggested that: community groups still abuse the system. Another said: it depends on the group — [government] shouldn't support eco-fascists who believe that all humanity should be wiped off the face of the planet. Despite this negativity, most of these
additional comments were qualifiers to the level or kind of support government can offer community groups, as reflected in the following discussion of the major categories of response.

Resourcing
Providing financial assistance was the role suggested most often by government interviewees representing 29 per cent of all responses. However, there were many different aspects of the financial resourcing issue. One of the most direct answers was: give them their taxes back. If community groups are doing government’s role, then money should go to the community group directly — their own pot of gold!

Another response showed a progression of ideas illustrative of the complex nature of the funding issue:

No blanket assistance — but on a selective basis (for example, the Peel Harvey Catchment Support Group), they should get money in kind for secretarial assistance. Then there’s travel costs and sitting fees paid to community people (for example, those involved in planning and development). And money [should be provided] for consultancy services to community groups showing significant and constructive roles (Water Watchers group government officer, March 1992).

Another state government officer said: government should provide advice on funding sources, from the Commonwealth government. Several interviewees spoke of assisting community groups on an investment basis, ie. only providing money to those groups likely to show a ‘return’ on funding. Still others were adamant about resource provision with no strings attached:

The government are the community. If it will be a large community gain, then financial assistance to service the purposes of the group is OK, as long as its equitable and serving the community good — especially if it will generate more commitment from the community [in terms of] cost-benefit ratios. (Downside Landcare group government officer, September 1992).
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But provision of financial resources, even though it was the most frequent response, was not the only way in which respondents believed governments could 'resource' community groups. A smaller proportion of interviewees spoke specifically about material, or in-kind resources. One respondent said that this type of resourcing should be the task of local government, although she added that: local government is getting overburdened. Another thought that regional centres and public buildings such as schools and hospitals should be available for use by community groups.

Several responses concerning the governmental role of resource provision were unique. One officer said that there should be: financial compensation to those who are economically disadvantaged because of being in a specific rural area — to make up for the tyranny of distance. Another said the role of government in assisting community groups should be: putting resources toward the ultimate care of the earth in a way which will sustain us all — presently funding is going into the core of bureaucratic and business systems. Although some would say these quotes illustrate the idealistic side of government, another interviewee was more critical of the government's funding role: with landcare, if the money is pulled back [by government], groups will fold. Much governmental assistance goes into providing community groups with the salary for a facilitator or coordinator.

Facilitating

Provision of facilitators and facilitating mechanisms were the second most frequent response, representing 21 per cent of the total. There was a distinct difference in the data between responses focusing on providing a person (the facilitator) and those focusing on providing the means of facilitation. In the category of 'facilitator', respondents were referring to someone who can assist with group dynamics as well as to a liaison person who can act as 'go-between' with community groups and government departments. Facilitation also included an administrative component which many government officers and community members alike perceived as a necessary function of facilitators. The category 'providing the means of facilitation', included feedback mechanisms to ensure that community groups i) are listened to and ii) can contribute to the decision-making processes of government. With respect to the former, one group member remarked that:
In future governments should listen to the people a bit more, they should communicate with the people rather than sitting on their shiny bums and pontificating (Water Watchers group member, March 1992)

Regarding the decision-making processes of government, one officer commented on the ability and power vested in local facilitators to assist community groups: *local officers must have the authority to help things move more quickly and smoothly for the group.* Another person referred to the way in which government officers can facilitate community groups through documenting the local contribution that groups make: *to avoid the grey suit takeover* and legitimise the position of the group.

*On the facilitation side, everything rolled along well, [it is important to have government] involvement with the option to draw on technical skills, but only after the community group has set their own objectives and leads. Maybe we need to actively discourage government agencies from stepping in too soon, [and encourage them] to stick to giving advice only, not setting directions, just providing the ground to bounce ideas off* (Water Watchers group government officer, March 1992).

Quite a few responses in the facilitation category were related to administrative processes which made it easier for community groups to access government departments and to simplify some of the ‘red-tape’. One government officer who advocated open information systems in government went on to say that government employees should attend awareness raising sessions and learn how to be more open and accessible to the public. Another went as far as to say:

*Governments who employ people with community-based experience need to be applauded. The employment of Aborigines, cultural minorities and disabled people to promote programs [is important] to bring community into the bureaucracy, not the other way around* (Water Watchers group government officer, March 1992).

In terms of the bureaucracy, all three sets of government interviewees reported that a close relationship with individual members of each group was important in order to remove the impersonality of a large government institution. The lack of formal
bureaucratic relationship between group members and government representatives was evidenced by the demise of official titles. Several members in both the Water Watchers and Downside Landcare groups were unaware of the employment status of their facilitator. One person thought that the facilitator was ‘on contract’ (but not to government), and others thought that the facilitator did work for government but did not know which department. In favour of the lack of administrative barriers, one group member spoke warmly about the quality of interpersonal facilitation in his group. He said that the role of government was not merely to assist with administrative arrangements, but to provide animation, passion and enthusiasm for the community group process.

Advice, education and training
Government officers in all three groups mentioned the provision of skills training as another role for government assistance to community groups. However, only one of these officers stipulated what kind of skills groups could be trained in other than ‘technical skills’: *education and training and help for people in the group, for example personal development skills, how to run meetings, chairperson skills [should be taught].*

A number of references were made to government expertise and advice. More than half of these comments were made in the context of government providing technical information to community groups such as: *technical skills — from an advisory role to major involvement.* Another respondent said: *technical information and expertise, should be provided, then added: as required and available.* This last comment ties into an underlying theme, disinclination among officers interviewed to stipulate that government should provide anything to community groups unless the group asks for help first.

Information dissemination and provision
Responses fitting into the category of information dissemination and provision were sometimes difficult to extract from those which coincided with the above category of advice, education and training. For example, one respondent stated that government had a role to: *help educate people to use information for the benefit of the*
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community. The central idea was that governments often had control of information which some respondents believed should be provided to the community, or at least made more open and available. One officer stated that governments had a role to provide:

*better access to local and state and federal government planning and information systems so that community groups know and can see that they have an impact (without scuttling or undermining progress). BUT, if they have open [information] systems, they must also have the determination and an obligation [to work] towards consensus. The best system [of government] is open, but if we do that with Australians, we'd end up breaking away like a lot of bantam roosters* (Water Watchers group government officer, March 1992).

There was a range of responses which indicated that government’s role was to share information with community groups. Others believed that this should be a more pro-active dissemination. One person said that governments could provide: *overall support from a central HQ for information, news, expertise, eg. the Landcare News.* Another comment about information given to community groups was made with reference to the provision of broad guidelines on government policy, for example: *provision of information on government regulations, or facilitation of information in diverse government departments to groups via networks.* There were several comments about the establishment of community networks and local information services for environmental groups. One interviewee suggested that government could:

*provide opportunities for community groups to learn from each other so that they can share information and knowledge between groups* (Water Watchers group government officer, March 1992).

Specific to the Water Watchers group (for whom information was a central theme in their attempts to monitor water quality), lack of information has played a key part in the history of community–government relations. Over the last 15 years a lot of frustration and mistrust of government has built up on behalf of some community
members due to a lack of consultation and communication. This was apparent on occasions when the Serpentine Jarrahdale Residents Association, a cousin of Water Watchers, attempted to access local environmental data from such departments as the Water Authority of Western Australia and the Bureau of Meteorology. Disenchantment with that government process led to the following comment: government departments are not bothered with Water Watchers, they’re all doing [their own] monitoring.

This section illustrated a number of key issues raised during fieldwork concerning government involvement in community groups. Chapter 8 explores and analyses these processes in more detail.

6.4 Outcomes and products of government involvement with the groups

It was more difficult to identify the products of government involvement in local environmental management compared with the community group’s involvement in local environmental management. It was difficult firstly because there were no universal goals or targets against which to measure progress. Each department or agency set their own goals and evaluated program outcomes against their own criteria (although in theory politicians set the goals). Secondly, it was difficult to analyse the products of government involvement in each group because they were not as tangible as were specific quantitative outcomes such as numbers of field days held or demonstration sites erected.

Responding to the question ‘What has happened as a result of the work of the X group?’, one government officer from the Department of Agriculture said: liming trials — they may have had an influence on the amount of [my] time put out in the area, in as much as acid soils are a landcare issue. But I think the stimulus for that has been crop and pasture, and Ag. Departments, and those outside landcare. He continued: landcare people are reinforcing the emphasis on liming put there by other groups. In other words, he thought that liming done by landcare groups was a direct outcome of government involvement. I believe he may have been more
interested in determining which government department was responsible for liming trials being established, than in reflecting any credit to the landcare group itself.

As with the respondent above, other government interviewees saw their own efforts as having resulted in some group's outcomes. For example in Downside, while the representative of the Department of Agriculture may have felt that the group's emphasis on cropping and pasture was at his suggestion, the Greening Australia representative saw that, as a result of the work of the group, more trees were being planted, more seed collected and the nursery established — all primary activities of Greening Australia. With the Mitchell River group, some government departments saw group outcomes as directly attributable to their own department: there are now a few examples of Aboriginal people being involved in a DPI [Department of Primary Industry] natural resources management program. This officer felt ownership of the Mitchell River group and saw it as fitting into one of 'his' natural resource management programs. It is clear that different departments are setting and managing their own agendas, with little attention to (and less cooperation with) other departments' aims and objectives, a point raised in Chapter 2.

However, there were several other outcomes or products of government involvement which illustrate more positive results. In the Mitchell River group, one officer stated that now the group is up and running, there has been: pressure put on the Department to release the rubervine rust. A number of officers spoke of better relationships between their department and the broader community through the work of the group:

[I've had] better contact with the Kowanyama Aboriginal Community, and we're starting to have more contact with Pomperau. I can see co-management of the Mitchell—Alice Rivers National Park going well. The real people are still there and I'd like to show the state that we can work well together (Mitchell River group government officer, September 1993).
Several other government interviewees spoke of increased recognition of the Mitchell River group by politicians, and others spoke of their jobs becoming easier through involvement with the group.

*It facilitates my task as Town Planner and enables me to make policy and recommendations toward sustainable development of the catchment.*

*It will provide another avenue for me to get graziers involved in management practices, through ways that don't fit neatly into the paradigm of the industry* (Mitchell River group government officers, September 1993).

The results or outcomes of government involvement in each group are complex and certainly not easy to establish. Answers to questions of effectiveness and efficiency in government involvement in all three groups are somewhat easier to pinpoint.

### 6.4.1 Effectiveness and efficiency of government departments

During the focus group, the question of effectiveness and efficiency of government involvement in each group was asked of community group members present. A similar focus group was not held with government officers alone: this may have let to more comprehensive understanding on the same issue. Participants discussed all contacts with government, then the good points and bad points associated with that contact, and finally evaluated the effectiveness and efficiency of government departments. Tables 6.2, 6.3 and 6.4 are summarised transcriptions of the effectiveness and efficiency of government departments as discussed in each focus group with Water Watchers, Downside Landcare and Mitchell River groups respectively.

For Water Watchers, there was a mixture of reactions to most government departments and their representatives, yet unanimous support was noted of the role played by the Community Catchment Centre associated with the group. It was generally agreed that: *you could get straight through to the CCC*. One person went so far as to suggest that it was because the Catchment Centre did not have to answer to higher government authorities. Another participant mistakenly believed that the
Table 6.2: Water Watchers’ perception of government outcomes

<table>
<thead>
<tr>
<th>‘Bad’ aspects of government involvement with Water Watchers</th>
<th>‘Good’ aspects of government involvement with Water Watchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>There was little information available from the Water Authority on water quality and it was hard to access when necessary.</td>
<td>The Shire of Serpentine Jarrahdale provided a venue and some cadastral information.</td>
</tr>
<tr>
<td>People don’t get back to you on the phone.</td>
<td>The Water Authority of Western Australia accepted the data generated by the group on water quality.</td>
</tr>
<tr>
<td>When recommendations were made by the group on the basis of results from several sampling sites, politicians and developers were: not interested in hearing the bad news.</td>
<td>The Western Australian Minister for the Environment donated a portable colorimeter to help monitor water quality.</td>
</tr>
<tr>
<td>The Water Ways Commission was seen as: not reliable — they did not provide monitoring equipment as promised and they did not attend meetings.</td>
<td>The Office of Catchment Management worked hard initially to help the group ‘get off the ground’ and assisted with the original submission.</td>
</tr>
<tr>
<td></td>
<td>The Office of Women’s Interests provided the initial funding.</td>
</tr>
<tr>
<td></td>
<td>The Water Ways Commission sent someone to give a practical demonstration of water quality monitoring procedures.</td>
</tr>
<tr>
<td></td>
<td>The Community Catchment Centre — accessible, unbureaucratic, positive, autonomous, involved, they know what they’re doing.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Effectiveness</th>
<th>Efficiency</th>
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<td>-</td>
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positive, rapid reactions by officers of the Catchment Centre to group requests were due to the fact that officers of the Catchment Centre did not work for government — they were on contract to government.

For the Downside Landcare and Mitchell River groups the same process was carried out. In the former, politicians were voted highly ineffective and inefficient by consensus. Almost unanimously the Downside Landcare group facilitator was ranked highly effective and highly efficient. Three other departments were ranked moderately effective and moderately efficient, without any real discrimination.
Table 6.3: Downside Landcare group perceptions of government outcomes

<table>
<thead>
<tr>
<th>Bad points</th>
<th>Good points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Politicians say a lot and do nothing. They are a dead loss.</td>
<td>District Agronomist is very accessible, very positive, I ring him at nights.</td>
</tr>
<tr>
<td>Government is working in cities and close to town in rural areas — where the votes are.</td>
<td>The facilitator keeps things going and has the facts right at her fingertips. She’s off the land, does a good job and is interested. She understands the workings of government, does the organising, logistics, and knows where to go for funding.</td>
</tr>
<tr>
<td>While Landcare is flavour of the month — all the politicians will be on soap-boxes.</td>
<td>The facilitator has taken the load of the Executive Committee and is conservation minded.</td>
</tr>
<tr>
<td>The timing and methods of funding are complicated and ineffective.</td>
<td>CaLM are supportive and they’re interested in what goes on.</td>
</tr>
<tr>
<td>Shuffling departments must be hard on them [CaLM].</td>
<td>[The man from CaLM] was doing the direct seeding works over and above his call of duty.</td>
</tr>
<tr>
<td>CaLM are having resources cut to their department. They’re over-committed.</td>
<td>The Murray Darling Basin Commission provided money for farm and catchment planning workshops.</td>
</tr>
<tr>
<td>It is inconvenient having the facilitator at the Lands Office instead of with the other government offices.</td>
<td>Greening Australia funded the Nursery and support the landcare group.</td>
</tr>
<tr>
<td>Local government have no resources to be involved.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effectiveness</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- +</td>
</tr>
</tbody>
</table>

amongst the three. They were the Department of Conservation and Land Management, the Department of Water Resources and Greening Australia (not a government department per se). The New South Wales Department of Agriculture were almost forgotten about, until one person made a comment in favour of their District Agronomist after some prompting on behalf of the focus group facilitator.
In short, while politicians fare the worst in an exercise such as this, it could be argued that this is because of the ‘faceless’ nature of government — group members did not generally interact with local MPs (Bradby 1992). Those departments or organisations perceived least effective and efficient were also those who had the least presence in the area. Conversely, the facilitator, who interacted with the group on a regular basis, both professionally and in her role as local landholder, was most highly regarded. Local well-known government identities are generally respected and admired in rural communities. But it is commonly acknowledged that little known bureaucrats and politicians from capital cities are much despised and unanimously decried, not just in Downside, but in many other parts of Australia. Outcomes of government involvement in the Downside Landcare group, as perceived by group members, are detailed in Table 6.3.

Lastly, the Mitchell River focus group ran out of time and did not discuss all the good points and bad outcomes of government involvement in the group in great detail, however these were summarised by group members and appear as Table 6.4.

6.5 Summary

The profile, processes and products of government involvement in environmental management are somewhat less tangible than those identified for community-based environmental management. Outcomes of government involvement in community groups may be better measured in terms of setting up local organisational capacity for cooperative environmental management. The Mitchell River group is a very good example of this. To date, many group members (both community-based and governmental) believe that the group has not done much. But their achievements should not be measured purely in terms of observable ‘output’. The coalition of interests sitting around the table at group meetings is quite remarkable and the effort required to establish this cooperation should not be discounted. The potential for cooperative management that exists in the Mitchell River Watershed indicates a participatory process of which government agencies should be proud. The topic of cooperative management is discussed further in Chapter 9 since it promises to be very important for local environmental management in the future.
### Table 6.4: Mitchell River group perceptions of government outcomes

<table>
<thead>
<tr>
<th>Bad points</th>
<th>Good points</th>
</tr>
</thead>
<tbody>
<tr>
<td>State and Local Government have jumped on the Integrated Catchment Management bandwagon to get money.</td>
<td>Upon the lack of recognition from government and the responding shock to the government when the group did not fold — the Mitchell River group became stronger.</td>
</tr>
<tr>
<td>Governments waste money compared with the efficiencies of the Mitchell River group.</td>
<td>Government departments now attend group meetings even though they previously may have felt threatened by the group.</td>
</tr>
<tr>
<td>There is a lack of integration and coordination between and across government departments.</td>
<td>From a feeling of initial wariness about government departments, there is now more group cohesion.</td>
</tr>
<tr>
<td>Government departments compete with each other — ‘the silo effect’.</td>
<td></td>
</tr>
<tr>
<td>Individual officers of departments are not reporting back [about MR group activities] to higher levels.</td>
<td></td>
</tr>
<tr>
<td>Government departments are not letting the group know about the submission process — eg. timing.</td>
<td></td>
</tr>
<tr>
<td>Government departments presume that everyone knows about the submission timetables.</td>
<td></td>
</tr>
<tr>
<td>Before when government officers were separate from the group, they felt threatened by the bottom-up style of the Mitchell River group.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effectiveness</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency</td>
<td></td>
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</tbody>
</table>

Chapters 7 and 8 discuss and analyse the ‘results’ from each of the case studies detailed in Chapters 4, 5 and 6.
Principles of community involvement in environmental management
Photograph by: Colin Beard, Australian Geographic 12: 81
Desert landscape near Marree, SA.
CHAPTER SEVEN — Principles of community involvement in environmental management

7.1 Introduction

So far this study has presented the results of investigations into how community groups operate and the practices which governments employ to assist these groups. This chapter draws out the principles by which community groups work, grounded in the evidence of the previous three chapters, and linked to relevant literature and theoretical frameworks. To reiterate, these principles are not generalisable for other community groups. This study was not designed on a statistical basis and therefore it does not attempt to generate 'recipes' which apply to other groups. Rather the three case studies provide the basis for generating grounded theory and principles which may be considered in relation to the conditions necessary for community-based environmental groups to undertake sustainable resource management.

These principles were first elucidated in the working papers arising out of each case study (Carr 1992a; 1993b and d). They encapsulate the insights or reflections of the research process combined with the evidence from each case study group. This chapter has four stages. First, Table 7.1 presents each of the substantive principles from all three community groups, according to their relative importance in each case. Second, key features of each community group are summarised briefly to remind the reader about each of the case studies. Third, each principle is discussed, which comprises the main part of this chapter. The discussion draws upon the evidence available from Chapters 4, 5 and 6, the published working papers for each case, and other relevant literature. Since this chapter attends to the theory and principles arising from each case study, comparative literature and a review of other research in this field is warranted here. The positive features of each principle are emphasised, but attention is also drawn to some negative aspects of group function to illustrate the complexity of group dynamics — there are no simple rules which if followed would ensure effective community involvement in environmental problem solving. Lastly, the principles identified are analysed according to their importance in determining their relevance to the functioning of each group. The following sections describe key features of each case study.
Table 7.1: Principles for community involvement in local environmental management across three case studies

<table>
<thead>
<tr>
<th>PRINCIPLES</th>
<th>WW</th>
<th>DL</th>
<th>MR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense of place</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- history and attachment</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>- boundaries and territory</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>- collective identity</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Sense of community</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- membership and belonging</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>- reinforcement</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>- influence</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>- emotional attachment</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Local epistemology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- awareness and recognition</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>- ways of knowing</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>- local and traditional knowledge</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Empowerment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- equity</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>- self-determination</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Key: Relative importance</td>
<td>• Minor</td>
<td>• Some</td>
<td>• Major</td>
</tr>
</tbody>
</table>

7.1.1 Water Watchers

Water Watchers started in early 1991 as a women’s group monitoring water quality. The group is issue-based and action-oriented, rather than community-oriented. To begin with, group members were reacting to a perception that governments were blaming residents and farmers in their area for contributing undue quantities of phosphates to the waterways causing blue-green algal blooms and toxic poisoning further down the catchment. The group was well supported by the local Community Catchment Centre, had adequate facilitation, a mixed membership base and heterogenous land use patterns. However, they lacked stable leadership and paid little attention to group dynamics. Both their voluntary group coordinator and
government facilitator left the group after the first year of operation. At the time of writing, the group had completed its monitoring projects and disbanded. There was no concerted attempt to prevent polluters of point source phosphate emissions from continuing to affect the water ways.

7.1.2 **Downside Landcare group**
The Downside Landcare group started in 1989 with a predominantly uniform membership base of farmers comprised equally of women and men. The group is well supported by government and has strong leadership, a strong sense of identity and good facilitation. It is action-oriented, based on a strong sense of place and pays attention to group dynamics and group organisation. It operates within a relatively homogenous landscape, and is equally concerned with production and conservation issues. Its central concern is dryland salinity. At the time of writing, the group was entering its fifth year of operation, had undergone leadership changes in both group chairperson and facilitator's positions and was involved in a range of land degradation prevention programs.

7.1.3 **Mitchell River group**
The Mitchell River Watershed group officially started in 1989, but only gained funding to employ a facilitator early in 1993. Group membership is diverse and dispersed. There is little sense of community cohesion, but the group is strongly oriented toward self-determination and community control. There is no one production or conservation issue which spurs its actions. The group is not action-oriented yet, but has strong leadership and facilitation based upon an acute sense of place. Land use patterns are heterogeneous and group dynamics are weak. At the time of writing, the Mitchell River Watershed group was producing short reports on conservation and production issues affecting the Mitchell River catchment and members were about to embark on more action-oriented projects.
7.2 Principles for community-based environmental management

Some general observations about community-based environmental management can be derived from the literature. Many of these relate to the case study groups as subpoints of the key principles derived from and grounded in the case studies. These observations are summarised in Table 7.2.

<table>
<thead>
<tr>
<th>Author</th>
<th>Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>O'Riordan 1988</td>
<td>Cooperative capability, Collective self-reliance, Appropriate science and technology</td>
</tr>
<tr>
<td>Barbier 1987</td>
<td>Participation, Institutional sustainability, Social justice, Cultural diversity</td>
</tr>
<tr>
<td>Rees 1988</td>
<td>Community support, Cooperative public-private enterprise, Open political and planning processes</td>
</tr>
<tr>
<td>Wismer 1988</td>
<td>Popular participation in development, Local self-reliance, Regional locus of control, Cultural self-determination, Social equality and entrepreneurship, Supportive networks</td>
</tr>
<tr>
<td>Gardner 1990</td>
<td>Equitable access to resources, costs and benefits, Social justice inter/intra generational, Quality of life — security of livelihood, Social self-determination, Cultural diversity, Participatory decision making, Development as qualitative change, Self-reliance and individual development, Culturally appropriate forms of development</td>
</tr>
<tr>
<td>Lerner 1991b</td>
<td>Connectedness, Stewardship, Accountability, Empowerment</td>
</tr>
</tbody>
</table>
There are four key principles for community-based environmental management which were found to be common to all three groups: a sense of place, a sense of community, a local knowledge system (epistemology) and empowerment. These substantive principles will be discussed in turn to demonstrate how community groups work.

7.3 **Sense of place**

The definition of place which has been used here originates from Ted Relph in his astute and sensitive treatise *Place and placelessness*. It is long, but extremely pertinent to the findings of this research:

> Places are fusions of human and natural order and are the significant centres of our immediate experiences of the world. They are defined less by unique locations, landscape, and communities than by the focusing of experiences and intentions onto particular settings. Places are not abstractions or concepts, but are directly experienced phenomena of the lived-world and hence are full with meanings, with real objects, and with ongoing activities. They are important sources of individual and communal identity, and are often profound centres of human existence to which people have deep emotional and psychological ties (Relph 1976:140).

Sense of place as defined in Chapter 2 is not substantively different from Relph’s definition of place, but the latter expands the list of topics to be discussed here in relation to the case study evidence. Each group operated within a defined place. Water Watchers used the administrative boundaries coinciding with those of local government. Being on the outskirts of a metropolitan area, many members described their attachment to land in both rural and urban terms. The group’s boundary was complemented on a small scale by each member of the group taking responsibility for monitoring a creek or drain near where they lived. Thus members spoke of Bob’s catchment instead of the Oakford subcatchment, or about one of Randy’s sites, instead of Beenyp Brook. In this way group members attained a sense of biophysical or catchment boundaries in relation to their house and local surroundings, as well as acknowledging the standard administrative area bounded by the Serpentine Jarrahdale Shire.
The Downside Landcare group defined its sense of place in terms of the district in which everyone lived. Cleared paddocks and rolling hills provided the backdrop against which a uniformly rural environment was divided by two valleys. These valleys ostensibly provided the geographic catchments from which group membership was drawn. However, community ties and the cultural geography of the area were, in practice, far more important factors in defining Downside’s sense of place. The Downside Landcare group’s relationship with the surrounding district is drawn upon extensively for examples later in this section.

The Mitchell River Watershed group defined their boundaries in biophysical terms as a catchment derived from digitised surveys of spot heights and stream flows. However, given the diversity of membership and conflicts in interests, there is little within the largely invisible catchment boundaries to band the group together. Members of the Mitchell River group stated that they were moving toward a more bioregionally defined sense of place — putting more emphasis on the role of the river in uniting communities at the top and bottom of the catchments. However, I also noted that each member organisation or individual also acts independently toward the protection of the watershed. This catchment-based boundary definition depends upon agreement about the central role of the Mitchell River in defining peoples’ lifestyles. However, the importance of the river seems most apparent in the case of the Aboriginal residents at the bottom of the catchment in Kowanyama, who have defined themselves in relation to that landscape for thousands of years.

7.3.1 History of and attachment to place

Attachment to space is culturally and socially defined. Just as individuals’ perceptions of place are dependent upon their experience and memories, so attachment to place is influenced by ‘our concrete experiences of the world as members of a cultural group’ (Relph 1976:12). Building on social construction theory introduced in Chapter 2, Relph develops a new perspective on cultural geography. With reference to the historical attachment some group members have for shared geographical spaces, he continues: ‘it is inter-subjective and hence amenable to all members of that group for they have all been socialised according to a common set of experiences, signs, and symbols’ (Relph 1976:12).
Over time, a community’s attachment to place increases, especially over a number of generations of artistic and cultural artefacts marking inhabitation of that place. Relph states that: ‘much ritual and custom and myth has the incidental if not deliberate effect of strengthening attachment to place by reaffirming not only the sanctity and unchanging significance of it, but also the enduring relationships between a people and their place’ (Relph 1976:33). He maintains that when people lose contact with the myth and rituals of their places, and with less attention to these customs, the places themselves become ‘changeable and ephemeral’ (Relph 1976:33).

The customs and rituals which sustained the Kowanyama Aboriginal Community’s attachment to the floodplain at the bottom end of the Mitchell River Watershed were forcibly weakened when ‘development’ intervened to displace the myth and sacred nature of ‘story sites’ or ‘story grounds’. Aboriginal members of the Mitchell River group told me of their fears for the future of the river and their anger at not being consulted over decisions which affect their lives and the life of the river system. One man spoke about the destruction of a rare lotus bed when a lagoon was dammed and drained to make way for the construction for a new road:

_The Department of Community Services constructed a dam at Red Lily Lagoon... but didn’t ask us! They buggered up the whole place. They should have asked the elders for that place — Kokoberra people. That [was] a story place and now [there are] no more red lotus lilies. They also buggered up Sandy Hole lagoon — trying to dam it up. That place was a story ground too. That lagoon was there since [the] very beginning of creation and was looked after by those Kokoberra people_ (Mitchell River group member, August 1993).

When places are destroyed, so ritual and myth lose their significance and attachment to place declines, but the reverse is also true. Through historical attachment to place, rituals are created and an enhanced sense of place can eventuate. Relph (1976) cites the example from the 1970s of an English Royal Commission on Local Government. That study found that attachment to home area increased with the amount of time that people spent there, an observation confirmed in this study.
through analysis of demographic survey results combined with insights drawn from participant observation techniques. One of the questions asked of group members pertained to the number of years spent in their area. Of the 48 people surveyed, 21 had moved into the area 21 or more years ago. Of these, 16 were from the Downside Landcare group, a disproportionately high number compared with the Mitchell River and Water Watchers groups. In the Downside Landcare group, sense of place was particularly significant as an identifying feature of the group, distinguishing members and non-members along territorial lines. This supports the claims that attachment to place grows with length of time spent in the area due to increased local geographic and social knowledge of the community and with increased contact among its members:

The human contacts on which feelings of commitment and identity are built are most likely to occur among people sharing the same piece of ground (Minor and Greer 1969:47 cited in Relph 1976:33).

These feelings of commitment and identity are shared not just with other members of specific communities, but are perceived attachments to the very ground itself. This concept of rootedness — as Relph expresses it, connotes a 'sense of deep care and concern for that place' (Relph 1976:37). However, it goes beyond that to also imply a real responsibility and respect which other writers have called stewardship (Roberts 1990; Lerner 1993). The concepts of rootedness or stewardship imply that there must be an environment about which people can feel stewardly. I argue that in addition to society's general need for protected spaces, specific people have a need to belong to specific places because of the culturally constructed nature of these geographical and social communities. Concepts of belongingness and involvement in local communities have been written about by authors concerned with personal and societal wellbeing (Boyden 1987; Hopkins 1993) which implies an emotional attachment to place. This emotional attachment to community was clearly illustrated in the Downside Landcare group.

The sense of comradery displayed by members of the Downside Landcare Group was a common reason for people attending landcare group meetings. This is linked
back to the presence of the tennis club in the centre of the region which served as a focal attraction for social activity. Meetings were held there, the seedling nursery was situated there, people treated it much like a community hall. Everyone knew where the key was kept and played a role in maintaining the building:

*The tennis club is our main hub around here — [its our] main focus for bringing people together [for the] social side and exchanging ideas and experiences.*

*The tennis club is a pretty big drawcard for the district — its a good community, whatever is going on, people get involved. People are generally interested in the whole of the district* (Downside Landcare group members, September 1992).

The Downside Landcare group served to increase the sense of community experienced by residents in their district. In this way, members were not exclusively reliant upon Wagga Wagga, a large regional centre nearby. When talking about the landcare group, one person said: *it keeps people together — focussed on this community not town.* Another member lamented days gone by when Downside, and the even smaller Coursing Park, were recognised communities in their own right:

*It is something that has changed with transport etc… In the early days this was a real community — tennis club, church and hall — but now with farms getting larger, less people here and more transport [into Wagga Wagga] — so [there are] less district community groups* (Downside Landcare group member, September 1992).

There is a very real sense of emotional attachment to the people and the history of the Downside area. Indeed, topophilia or emotional attachment to place (Tuan 1974) was evident in each of the community groups studied. However, there was a marked difference in topophilia between those groups who defined their relationship with the environment in terms of territory and those who classified it as a functional relationship. Territory and function have been defined in relation to space in
Chapter 2, and are re-examined here in relation to the identity of a place or community.

### 7.3.2 Boundaries as territory or function

Although territoriality has gained respect as a sociological concept, it is important to clarify the term further. I am not using it in its ecological sense and do not wish to draw any analogies with the way that other animals define their territory by instinct or genetic predisposition typified by conflict and aggression (Suttles 1972). I prefer the term territorial as opposed to territoriality, to refer to the way in which space is organised from an insider perspective, rather than an outsider's perspective.

**Water Watchers**

Water Watchers has a largely functional relationship with its environment, although members displayed territorial notions of attachment to place when they expressed a desire to: *put something back into the neighbourhood*. One man told me stories of his childhood in the area, and the number of birds and animals he would encounter. A woman told me her family had originally come from this area and as a girl she had grown up in the Shire. Both people had moved away, but now felt some sense of affinity to the land and a desire to protect it. Despite these territorial ideals based upon historical attachment, the observed reality of Water Watchers’ current relationships with the Serpentine Jarrahdale area belied a functional approach. Members were interested in phosphate levels from the perspective of proving to the State government scientists that phosphate run-off was not emanating from the farms or other properties at the top of the catchment. They had a secondary interest in planning changes to their agricultural practices, but did not have the strength in unity or commitment to put their plans into action. Collectively they were not driven from a territorial relationship with their common property. Instead, some members clearly perceived a number of divisive relationships between those members who lived ‘up the hill’ and those who lived ‘on the flats’.
Downside Landcare

The experience of Water Watchers is in marked contrast to the relationship of the Downside Landcare group to their environment. The latter was founded almost purely on territorial affiliation to a common district between members of two adjacent valleys. Families in Downside who have been there for nearly 90 years, have formed a close bond with the landscape that identifies their place or property in relation to the local geography. Hence, social boundaries are very much 'a reality' in terms of the formation of the landcare group. Forty to fifty years ago, people who 'lived over the hill' from one another may never have met, due to the social and geographical patterns of where they shopped, played sport or went to church. With school closures and greater ease of transport, residents of the whole district now band together to create a sense of community, or risk being socially isolated and peripherally dependent on the urban centre of Wagga Wagga.

During interviews in Downside, a group member would quite often point up or down hill to locate his or her property in relation to others in the valley. This is meaningful considering the effects of salinity in relation to recharge and discharge sites affecting individual properties. The geographic separation of recharge and discharge sites was perceived as a problem for some group members who understood that salinity itself recognises no clear social or administrative boundaries. Ecologically and economically damaging processes which start in one area may affect a completely different region some distance away. Territory then, becomes less of an individual issue and more of an identification with a catchment, or community group:

Because [with] a community group — everybody has self-interest and if they have a problem they don't all have the time or money to fix individuals' problems so as a group they can help each other and in the process help the whole district (Downside Landcare group member, September 1992).
Mitchell River
The Mitchell River group had both a territorial and functional relationship to their expansive environment, recognising the unique cultural, historical and social characteristics of the area as well as its ecological and physical dimensions. This sense of belonging to the north of Australia characterised the group and was echoed through the paraphrased sentiment ‘we’re different from the south, we don’t have the same values, beliefs and attitudes as southerners do’. Another example of the Mitchell River groups’ territorial attachment to their catchment was the often expressed desire to protect the Mitchell River — not to allow it to become sullied and dysfunctional as other (southern) river systems have.

The territorial relationship of the group with the watershed was also evident in interviews when people insisted that they were still living on the edge of society. Interviewees saw Cape York as the last frontier and land users on the Cape as still fighting frontier battles. But perhaps what characterised that group most was the diversity in ways of seeing and attending to the landscape and the cultural distinctions in that attachment. Graziers, miners, tourists, fishermen and Aborigines all had different ways of valuing the catchment. Collectively however, although the overt goals and objectives for the watershed were ‘stewardly’, the reasons for preserving their catchment mount up to a slanted version of a tragedy of the commons based on members’ private attachment to public lands. Some group members were interested in environmental management of the Mitchell River Watershed for personal gain, rather than ecological integrity.

7.3.3 Collective identity
Despite a legacy of building fences (which make good neighbours...) and operating within a culture which served to idolise the rugged individualist, these community groups have been building collective experiences of district pride. In the case of Downside, field days for tree-planting projects on local farms served to bring back private property into the realm of public concern. Through group efforts toward common goals, a collective identity has been restored to the Downside community:
In short, people are their place and a place is its people, and however readily these may be separated in conceptual terms, in experience they are not easily differentiated. In this context places are ‘public’ — they are created and known through common experiences and involvement in common symbols and meanings (Relph 1976:34).

Signs erected on demonstration sites are common symbols in Downside which unite the community in two ways. Not only do they interpret the landcare message for passers by, they also serve to reinforce common boundaries and contribute to constructions of collective identity. But it is not only the identity of a place such as Downside which is important to group members, a feeling of identity with a place was also important, and ‘in particular, whether they are expressing it as an insider or as an outsider’ (Relph 1976:45). This feeling of identity was quite explicit in Downside between non-members who were outsiders, and members who were insiders. For group members, there was an even finer distinction of ‘insideness’ between general group members and committee members (see Figure 7.1 which illustrates the proximity of members’ and committee members’ properties at the southern end of the district).

To be inside a place is to belong to it and to identify with it, and the more profoundly inside you are, the stronger is this identity with the place (Relph 1976:49).

Landcare group members' identity with the district in relation to one another was strengthened by local historical knowledge. The chairperson of the group lives on Narua, a property near the middle of the catchment. He also owns Coursing Park, one of the first settled properties in the district and owned by his father before him. An elderly neighbour explained the strong ties between these two properties and the original Public House, whose proprietor had christened the district after an English country town of the same name. As an aside, it is interesting to note from Figure 7.3 the number of property names with Anglophilic titles. Although it may seem strange in such a typically Australian landscape, it is a widespread phenomenon across the continent.
Manifestations of insideness and outsideness are never more apparent than at junctions, gateways and thresholds (Relph 1976). To strengthen common bonds, members of the Downside Landcare group display their membership status on the front gate to their property with a metal sign complete with logo. This sign does not simply announce the border of outside public space with inside private space, it serves to connect the common outside space with other landcare members. No longer is the district comprised of a series of separate inside spaces, it is made up of an apparently unified and coherent boundary of ‘landcaredness’. This serves to push the division between properties aside, in favour of a stronger division between members and non-members of the group, and insiders and outsiders within the larger Downside district:
As our intentions vary, so the boundary between inside and outside moves... if our interest is focussed on our home, then everything beyond home is outside, if our concern is with our local district, then everything beyond that district is outside, and so on (Relph 1976:50).

Interviews with members of the Water Watchers group also contained some evidence of the territorial boundary shifting from the individual to the community. One woman spoke literally about moving the boundaries of private responsibility to include the wider community when she said: *the community is an extension of my garden*. Another spoke about wanting to get out of the house and into the community, joining Water Watchers was her method of meeting other people and widening her interest base.

It is apparent that biophysical landscapes and places are expressions of commonly held beliefs and values of the people who inhabit these places (Relph 1976). Putting it differently, the geographic place or context in which community groups work is a cultural construction of the community living in that place. The community group is a conduit by which cultural change is reflected in the landscape, either consciously or unconsciously. Environmental community groups such as Water Watchers, the Downside Landcare group and the Mitchell River Watershed group can make an important difference to local environmental management through consciously reflecting cultural values onto local landscapes. Relph (1976) thinks of community as a spontaneous and adaptive reflection of local culture and distinguishes it from community groups or interest groups which are more formal and organised: ‘yet through interest groups such communities can develop and an image be projected [onto the landscape] in which the identities of places of significance to that group are a reflection of group interests and biases’ (Relph 1976:57).

A sense of place is an important principle if not an essential precondition for community-based environmental management. However, this sense of place must be understood alongside another, perhaps more fundamentally important concept — sense of community.
CHAPTER SEVEN — Principles of community involvement in environmental management

7.4 Sense of community

The study of 'sense of community' is important because some authors claim that it is the principle which contributes most to concerted, participative action by local community groups (Heller 1990; Grierson 1993). Therefore, it is vital to understand the theoretical and applied elements of this psychological construct which has been identified by interviewees in each of the three community groups studied. McMillan and Chavis (1986) have identified a theory and definition of 'sense of community' which entails four distinct criteria: membership, influence, emotional connection and reinforcement of needs. These form the basis of discussion about 'sense of community' introduced in Chapter 2 and now extended.

7.4.1 Membership

The criteria for membership have in large part already been detailed above under the discussion on sense of place. McMillan and Chavis (1986) stipulate that their concept of membership relating to a sense of community has five distinct components: boundaries; a common system of symbols; emotional safety; personal investment; and the sense of belonging to and identifying with the in-group. The first two of these have already been discussed in relation to the Downside Landcare group. Emotional safety was not an important distinguishing factor of group membership in any of the three case studies, and therefore it will not be discussed here. Personal safety is more of a public issue in urban groups than in rural Australia (for example, Neighbourhood Watch is far better known than its less visible cousin, Rural Watch). The last two features of membership, are however, important elements of the experience of the case study community groups.

Belonging and identification

A sense of belonging to the group and a sense of belonging to the local area, were mentioned time and again by interviewees across all three community groups in response to the question of what motivates people to join groups. During focus groups, a sense of belonging was rated very highly as a reason people join community groups. In the Water Watchers group, it was considered a more
important reason for joining than altruism, personal gain or meeting new people (illustrated in Chapter 4).

The concepts of belonging and exclusion were mentioned in Serpentine Jarrahdale by some children in a classroom interview. Responding to a question concerning the difficulties which prevent local people from joining community groups, two restricting factors were: *people tease them [about] joining groups* and, *not having friends in the same group*. These comments were echoed by adult non-members of Water Watchers. Their wish to avoid the tag 'radical greenie fringe' sounded a lot like fear of being teased as the children pointed out. Festinger (1950a and b; 1953) describes many factors of group belongingness, attraction and membership, especially in terms of the effect of having friends in the same group (Festinger 1953), the effects of reward and humiliation on group membership (Festinger 1950a) and the effect of intergroup conflict and prejudice on membership (Festinger 1950b).

The importance of participation and fear of exclusion were noticeable features of all discussions and interviews with members of Water Watchers. Being involved was of paramount importance to group members, and not being involved or consulted or being excluded was in one case the reason given for leaving the group.

In the case of the Downside Landcare group, there was a noticeable relationship between members’ sense of belonging to and identification with groups and enhanced participation in community activities. Perhaps more than any other factor, participation or involvement are two vital conditions for effective environmental management by a community group. In every study or evaluation of landcare, belonging, involvement and/or participation are cited as key elements in a ‘successful’ group, (Goss and Chatfield 1991; Oates and Campbell 1992; Siepen, Marston and Woodhill 1992; Rush and Associates 1992). Many of the Downside Landcare respondents interviewed spoke about how highly they valued their involvement with the group. They also believed that the group has gained from community participation. In Downside there was a high participation rate among women (discussed further below) and among people of all ages. This level of participation in the group effectively drives ownership of landcare in Downside.
The literature on participation includes extensive research into who participates in voluntary community organisations. A recent review of this literature raises some questions of relevance to community involvement in landcare (Grierson 1993). It was suggested that there should be more research into the quality of participation, not simply the numbers of participants. Quality of participation is partly to do with a ‘sense-of-community’:

Research shows that one group of people is much more likely to participate in community organisations than others. These are people who have a strong feeling of being part of a community (Grierson 1993:214).

The link between belonging to or identifying with a community group and participation in community activities has been reinforced by several studies illustrating the bidirectional nature of this relationship. The more people are involved and identify with a community group, the more they participate in group activities. Conversely, the more people participate in community activities, the more they feel a sense of belonging to and identification with the group (Chavis and Wandersman 1990; Florin and Wandersman 1990; Butterworth 1994).

However, there is a negative aspect to this discussion of belonging and identification related to the non-involvement of community members. A source of discomfort for Downside members was that there were still some landholders who were not members of the landcare group. Typical of members’ written responses listing the low points of involvement in the landcare group were:

*It's hard to get everyone keen and participating.*

*Not being able to get neighbours involved where the recharge area starts* (Downside Landcare group members, September 1992).

Non-members on the other hand typically reported that the landcare group was doing well and that they (non-members) had a good relationship with the group — from a distance. That was a literal distance in several cases. People living on the edge of
the boundaries of the area were generally less involved than those living close to the Coursing Park Tennis Club. Other people who lived outside the area also spoke of being: *sympathetic to their cause... just haven't had much direct involvement.* Other non-members of the group felt that they had to justify their non-involvement with the group in terms of the perceived principles of the group. One person spoke of his relationship very warmly:

> [I have] a good relationship, [they're] good neighbours and good chaps, good family people, I couldn't say one word against them. I've got on well with them. I watch what they're doing, but don't agree with spraying¹ (Downside Landcare group non-member, September 1992).

Another non-member spoke of his non-involvement in terms of a fundamental disagreement with the way the group were running: *in the last 12 months, I haven't had anything to do with it — not for any personal reason — just because I'm against the way it's operating. They got a grant for $23,000 for mapping. When the mapping was introduced, I pulled out — the money should be spent directly [on the ground].* Someone else spoke about what makes it difficult for him personally to become involved: *age is a factor — I've had my hips done and I can't get involved as much [as I used to].*

In the Mitchell River group, belonging and identification were construed slightly differently to the other groups, largely because of the space between members across the catchment. Non-involvement was more a function of a deep seated and immovable constraint — distance and isolation. Owing to the huge distances and the rough nature of the terrain, frequent road travel was expensive and time-consuming, especially in the wet season. Air travel was the preferred method of getting from A to B, particularly if A and B were at opposite ends of the catchment. However, given the high cost of aviation fuel and the cost to some of commissioning an aeroplane, this means of travel was not equally accessible to all members. Where possible, individuals would endeavour to share costs among two or three people

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¹ The spraying to which this interviewee referred was the widespread application of agricultural chemicals including pesticides, herbicides and fungicides.
travelling to the same meeting or field trip. Another solution to the problem of isolation was to rotate meeting venues between the eastern and western parts of the catchment. This practice allowed more informal participation in group meetings among people who would 'show up' on the day and who may not be able to afford to attend meetings held elsewhere.

**Personal investment**

Based on the work of theorists writing about cognitive dissonance, McMillan and Chavis (1986) note that members of community groups who invest personal time or resources in the operation of community groups will value their membership more highly. This investment in turn will have a significant effect on that members' sense of community. With specific reference to stewardship groups, Sally Lerner draws upon the work of Festinger (1957) and Aronson (1969) in making the point that there is a 'tendency for people to develop stronger commitment to anything in which they invest time and effort' (Lerner 1994:14; see also Lerner 1993). These observations hold true for each of the community groups studied.

I also asked about the nature and extent of contributions in financial terms as well as the amount of time members spent working with the group. On average, members of the Downside Landcare group invested more financially than did members of the other groups. Each Downside Landcare group member pays a $10 annual membership fee which was largely perceived as a token gesture. In addition, some Executive Committee members contributed substantial sums of money out of their own pocket:

> In the first year, it was A LOT [of money]. There were phone calls, trips to town, landcare dinners, looking at sights, lunches, Max's time, we'd pay for extra things then — incorporation fees, trees, stakes, tree-guards, etc. I wouldn't like to say, it could run into a huge amount of money (Downside Landcare group member, September 1992).

Most members discounted the contribution they made to the group in lost wages, petrol and donations of food. Many Downside Landcare group interviewees felt uncomfortable about telling me the amount of money spent on landcare related
activities. However, when asked about the success of the group compared to their contribution of time and effort, they all said that of course it had been worth the effort.

Neither of the other two groups charged a membership fee, although individuals in both groups went to some lengths to contribute financially, either in procuring the necessary materials, or meeting travel costs. The cost of attending meetings of the Mitchell River group was particularly high. One person estimated that hiring a plane cost $800. Another member spoke of lost income valued at $2,500 over the two years of his involvement, and one Water Watchers member contributed many personal resources in analysing water quality samples.

7.4.2 Reinforcement

The concept of reinforcement in a community group context refers to fulfilment of both group and individual needs while maintaining a 'positive sense of togetherness' (McMillan and Chavis 1986:12). Psychologists have identified several reinforcing features of the individual–group relationship as the status of being a member, the success of the group, individual competencies within the group and shared values within the group (McMillan and Chavis 1986). However, not all of these features were encountered in this research. For all three case studies, the status of being a member had less to do with the hierarchy in these groups than it had to do with being included in the group, which is a function of membership (discussed above). Two newer members of Water Watchers provided an exception to this. They spoke disparagingly about the position of some of the original Water Watchers members in the local community:

The hoity-toity brigade didn’t get their feet wet... They knew each other all through the Local Conservation District Committee. [It was] very cliquey - too many big farmers and councillors, too elitist - they all had handles to their broom ... [There was] too much name-dropping and not enough sharing of information. They were all community-minded before [joining]- they represented some things from before. But communications weren’t coming back down the line. They knew but we didn’t know and we felt powerless (Water Watchers group member, March 1992).
This response suggests a lack of reinforcement derived from a feeling of powerlessness and lack of statue which in turn contributed to less sense of community.

Several interviewees mentioned individual members' skills and competencies as factors reinforcing a group ethic. In each case, personal attributes such as enthusiasm, energy, motivation and intelligence were held up as representing the qualities of good leadership in coordinators and facilitators. As noted in Chapter 4, these sorts of personal attributes were more likely to be listed by group members than by government officers. McMillan and Chavis state: 'people are attracted to others whose skills or competence can benefit them in some way' (McMillan and Chavis 1986:13). The diversity of group members skills and attributes was also seen as a desirable characteristic of group dynamics contributing to reinforcement in the three case studies.

The findings of this study add complexity to McMillan and Chavis's argument that shared values contribute to group reinforcement. McMillan and Chavis contend that groups of people who come together with shared values, also 'find that they have similar needs, priorities and goals, thus fostering the belief that in joining together they might be better able to satisfy these needs and obtain the reinforcement they seek' (McMillan and Chavis 1986:13). However, there are some finer distinctions to be made in their argument which are not reflected in their cursory examination of this topic. In all three community groups studied, it was not that groups of people with shared core spiritual or life-style values would come together, more that the groups formed out of a common concern with an environmental threat. People joined Water Watchers to monitor water quality and fend off policy makers and politicians who were laying blame at the feet of the Serpentine Jarrahdale community. With the Downside Landcare group, farmers were concerned at the threat of spreading dryland salinity. They rallied around a common threat to their livelihoods and quality of life to prevent further land degradation on their properties. And in the case of the Mitchell River Watershed group, individuals came together to start a catchment management group in order to start thinking about the sustainable health of the Mitchell River; a truly stewardly endeavour, but not at all motivated by
shared values. To the contrary, I suspect that the values of the miners, graziers, environmentalists, professional fishermen and bureaucrats which form the Mitchell River group differ enormously. In addition, community group members may belong to a number of different groups simultaneously, thereby upholding the values espoused, for example, by cricket club members while at the same time identifying with those of the wildflower association or toy library.

McMillan and Chavis (1986) speak of shared values within the context of relational communities — those who may not share territorial ties, but who have common social relationships. The community groups of this study, are all firmly based in locality — whether on a grand catchment scale such as the Mitchell River group, or around a local government boundary, such as Water Watchers. While it may be true that sense of community is strengthened by shared values contributing to individual’s needs being reinforced by group members, I believe that it is more a question of degree, especially for geographic communities. The evidence analysed in this study does not support the assertion that shared values leads to greater reinforcement of individual needs and hence the development of a sense of community. Consider the case of the Mitchell River group. Part of the ideology of the far north is that life is different on the Cape and requires a different sort of person to live there. Qualities of individualism, chauvinism and self-reliance are echoed through a colonial history to the present day. However, differences in the assumed value base of members of the Mitchell River group could hardly be wider. It is more a question of the degree to which these values are shared which contributes to reinforcement of the group, than a simple positive correlation. This discussion of shared values will continue later in this chapter when the hypothetical link between shared values and group action is exposed.

7.4.3 Emotional attachment

There are many similarities between an emotional attachment as it relates to sense of community, and an emotional attachment to place. A sense of shared history was strongly evident in the Mitchell River and Downside groups, but was not a factor uniting the Water Watchers group. In Downside, emotional attachment to place was an especially important factor contributing to a sense of community. The ‘district’
forms the basis of a strong cultural attachment between the residents, the land and its settlement history: many people spoke about joining the landcare group for the sake of the district. One person said: *I suppose I had the feeling that if something started in the district, you need to be behind it.* Another stated: *if you can get the district behind you, you’ve got everything.* The implied solidarity is supportive of the Downside community’s identity. Another person identified emotional attachment as the main reason for wanting to join the landcare group: *because it was a district project — to give community spirit — [and besides which] socially it was good — they’re nice people.*

The social networks within each of the community groups under analysis support the theoretical observations about the interdependency of emotional attachment and sense of community. The more people interact with each other, the stronger their emotional attachment to each other and the group (McMillan and Chavis 1986). Conversely, the stronger the sense of community within a group, the more likely it is that emotional attachments will form among group members (Chavis and Wandersman 1990). The presence of social networks within a community enhances the opportunities for emotional attachments to form. The more social networks cross and re-cross, that is, the more times people see each other in common networks, the greater the likelihood of emotional bonds forming; a significant feature of a sense of community.

The intra-group and extra-group relationships among members of Water Watchers are illustrated in Figure 7.2. Underneath the oval of group membership, nine circles represent members’ other interests and memberships of other community groups. There was little overlap between members belonging to one group and those who belong to another. Above the Water Watchers oval, the oblong shapes represent Water Watchers’ formal relationships with other organisations. The group was a subcommittee of the Local Conservation District Committee, an organisation of local landholders, almost all men, who were the umbrella group responsible for accounts and submissions. They were linked to the Serpentine Jarrahdale Shire Council who strongly supported the group via provision of in kind resources and a venue for meetings as detailed in Chapter 6. The Shire Council also had strong ties with the
Community Catchment Centre which provided facilitation to the group. At the top of the figure, the Serpentine Jarrahdale Ratepayers Association were obviously linked to the Shire, and remotely linked to Water Watchers with several members in common among the two groups.

Social networks for the Downside Landcare group and the Mitchell River group are shown in figures 7.3 and 7.4 respectively. In Downside, there was more overlap of membership among the other organisations to which group members belonged and there was less discrepancy among the type of these other community groups. In Downside, the four formal organisations supporting the landcare group were founded on less formal relationships than for the Shire Council and Ratepayers Association supporting the Water Watchers group. Consequently, emotional attachments
between group members were more likely to form. Not only was contact between members more frequent, but the nature and quality of interactions were qualitatively different to those of Water Watchers due to the broader focus and narrower membership base of the supporting groups (McMillan and Chavis 1986).

The role of the church in Downside was an important feature in the formation of spiritual bonds leading to emotional attachments among some landcare group members. The history of the Downside area is strongly linked to the Presbyterian and Lutheran churches. Many members of the Downside Landcare group were closely affiliated with one or both of these churches. In some families the husband belonged to one church and the wife to another, but rather than creating conflict, membership of either church seemed to strengthen the group. The spiritual
dimension and networks built within the Downside community on Sunday mornings seemed to reflect some of the stewardship ideals or land ethics brought to landcare group meetings at other times of the week.

Several observations of linkages between the role of the church and landcare within the Downside community strengthen this attachment. Being able to [bear] witness to other people about landcare (or as I understand it, being able to tell other people about her role in the group), was a high point of one landcare group member’s involvement. But whatever interpretation ascribed to her words, it is obviously associated with the role of the church in Downside since her choice of language is more typically associated with religious matters. It seems that the strength of community founded in church attendance has overflowed into the community at large and is reflected in attitudes to the land for some landcare group members. Majid Rahnema could easily have been referring specifically to the Downside Landcare group when he wrote:

> The sense of sharing common spiritual ideals of a purifying nature can create new and contagious forms of enthusiasm and solidarity, which in turn greatly increase the operational effectiveness of the group (Rahnema 1992:171).

This spiritual cohesion was also captured and expressed by a community psychologist as one of the contributing features of emotional attachment which led to a stronger sense of community:

> Institutionalised religion is a major characteristic of a community, an organising and ramifying force, a force not only significant in the lives of many of its individuals but also significant for other community institutions and forces (Sarason 1974:135).

The same person who spoke of ‘witnessing about landcare’ also spoke about the links between her beliefs in caring for the land, caring for children, and her spiritual philosophies. The strength of her conviction and the elegance with which it was put reminds me of some of ecofeminist philosophers and deep ecologists:
We should nurture our land like our children — we should pass it on in better condition than we received it. We are just stewards really — it's not our land, just like they're not our children, just leased to us (Downside Landcare group member, September 1992).

Emotional attachment within the Mitchell River group was much less evident than in the Downside group, see Figure 7.4. Neither the formal or informal organisations supporting the Mitchell River Watershed group had many shared members. Members were socially as well as geographically isolated from each other, which made it more difficult to build a sense of community. Traditionally, Aborigines, miners, fishermen (there were no professional women fishers), graziers, tourism operators and environmentalists have kept to their own camps, not mixing socially at all. The central means of maintaining a sense of community in the north is to keep in touch with local news and information through the 'bush telegraph'. The Mitchell River group seemed to help perform this function. As mentioned in Chapter 4, members' motivation for joining the Mitchell River group had much to do with finding out what was going on, having a say and making sure that others did not have too much say. The history of rural networks and importance of maintaining contact in an isolated landscape is relevant here. Before telephones were installed, a common means of communication with the outside world was a weekly visit from the mail plane which distributed not only letters, but gossip and news from other places in the region. Joining the Mitchell River group can also be interpreted as filling a need for information and keeping up with developments as they occur in the watershed.

McMillan and Chavis (1986) include concepts such as closure to events and shared importance of events as contributing to members' emotional attachment to and sense of community. Neither of these features were evident within the Mitchell River group. Since group interactions are ambiguous and group tasks left unresolved, cohesion in the Mitchell River group was severely constrained, a point echoed clearly in the literature on sense of community (McMillan and Chavis 1986). Despite the best intentions of the organisers at the land degradation conference which gave rise to the Mitchell River Watershed Management Working Group,
members are limited in their sociological and geographical abilities to work together when planning events, and are therefore also restricted in their capacity to form emotional attachments.

7.4.4 Influence

Much of the ensuing discussion on social influence is based on a seminal publication by John Turner who synthesises literature in this field from the 1930s to the early 1990s. His definition of social influence is mandatory for a common understanding of this term:

The key idea in understanding what researchers mean by social influence is the concept of a social norm. Influence
relates to the processes whereby people agree or disagree about appropriate behaviour, [and the processes whereby people] form, maintain or change social norms (Turner 1991:2).

There are two ways in which the study of influence is pertinent to the community groups in question. Firstly, the way in which individuals influence the processes of the group, and secondly, the way in which the group influences individual members. For this analysis, it is important to make a finer distinction between reference groups and membership groups alluded to earlier. Reference groups are those with which individuals compare themselves to assess their own situation and to refine their attitudes and beliefs or obtain guidance about their behaviour. Membership groups on the other hand, are those which ‘a person is in by some objective criterion, but which that person may not refer to psychologically for self-evaluation and social values’ (Turner 1991:5; see also Brislin 1981). Of the three, the Downside Landcare group is the only true reference group affecting individual members’ sense of security and cohesion.

Social influence (and not coercive power) is expressed in reference groups in three ways; i) through normalisation — the establishment of group norms, ii) through conformity — the majority influencing a minority, or iii) through innovation — in which the minority may influence the majority (Moscovici 1976 in Turner 1991). Detail about each of these is beyond the scope of this study. However, it is important to illustrate how conformity, for example is operating in the Downside Landcare group to enhance sense of community. Chapter 4 introduced the idea of social influence with reference to the minor role that community groups play in reinforcing communally held beliefs and attitudes. Now consider the following quotes relating to conformity, cohesion and influence:

Groups provide motivation. When you’re in a group with good leadership, individuals are willing to do as others in the group want them to — but individually they’re not capable. As time goes along, groups help provide peer pressure.

[Groups are a] vehicle for interaction between different groups and organisations. For example, TAFE [colleges of
Technical and Further Education schools, city people — they can feel a part of the group.

Individuals and the group act as a barometer of thoughts and feelings of the whole community (Downside Landcare group members, September 1992).

Social conformity theory accords with evidence from the Downside case study in three distinct ways. Firstly, it is a way of testing social reality with a group of like-minded people. The ability to talk about common issues within a group was mentioned several times by Downside landcare group members as one of the factors which motivated individuals to join the group. Secondly, having joined the group, peer pressure toward uniformity of ideas and cohesion of beliefs and behaviours strengthens group conformity and identification. Thirdly, the tendency to check out other members' beliefs and ideas about social reality increases when information about the biophysical realities of the community declines or becomes overly complex (Turner 1991). This is known as the consensual validation construct which 'assumes that people possess an inherent need to know that the things they see, feel and understand are experienced in the same way by others' (McMillan and Chavis 1986:11) — a topic which elegantly introduces the notion of local knowledge:

An opinion, a belief, an attitude is "correct", "valid", and "proper" to the extent that it is anchored in a group of people with similar beliefs, opinions and attitudes (Festinger 1950a:272).

7.5 Local knowledge

The most common definition of epistemology is 'ways of knowing' referring to the multiplicity of ways in which knowledge is socially and culturally constructed (Berger and Luckman 1973; Fisher 1990). Individual knowledge claims are grounded within everyday experience and emotion, therefore the importance of local knowledge should not be overlooked. This section first investigates awareness and recognition of environmental problems. Secondly, it reviews the theory behind ways of knowing, and thirdly, traditional ecological knowledge is analysed as it relates to the case studies.
7.5.1 **Awareness and recognition of a problem**

Environmental problems are not mere conglomerations of biophysical symptoms. They are manifestations of social, economic, cultural, physical and ecological pathologies. 'In other words, environmental problems are not so much 'out there' in the environment but exist as a function of the relationship between community and environment' (Martin *et al* 1992:13). In addition, I argue that environmental issues are complex, involve a degree of risk and uncertainty and are constructed in different ways by individuals compared to groups (see Figure 7.5).

**Figure 7.5: Complexity of key environmental issues in Downside**
Reference groups such as the Downside Landcare group socially construct a shared sense of the multiple realities of living in Downside. However, there is a marked difference between mutually agreeing to a set of environmental problems and constructing the same problems based upon individual values and attitudes. For example, in Downside, widespread dryland salinity poses a serious threat to the future of farming and motivates people to join the landcare group. However, not all farmers in the district perceive or acknowledge salinity and its associated problems as encroaching and severely erosive forces in terms of productivity, ecology or the social cohesion of the community:

_We weren't really aware of The Problem until the landcare group — we weren't prodded into action. But we've been watching The Problem ever since we've been here — its only exacerbated into a real worry over the last fifteen years. Some people say its not a problem and ignore it — [at least] not a worrying problem — but even they are gradually coming around to realise we've got to do something about it_ (Downside Landcare group member, September 1992).

There are a number of other land degradation issues of concern to Downside’s landholders and to officers of the Department of Agriculture alike. Rising watertables is ‘the problem’ to which this respondent was referring. Other environmental issues in the area include; surface waterlogging, soil structure decline, dryland salinity, tree death, pests and weeds, nutrient decline, soil erosion and soil acidity (John Clarke, Department of Conservation and Land Management, _pers comm_, September 1992). However, there is considerable variation in the degree of concern shown by landholders about these problems.

Even naming ‘the problem’ creates difficulties for some people as exemplified by the quote above. The work of Paulo Freire is relevant here in terms of his contribution to community development. He recognised that for some rural people bringing about a change in thinking toward a ‘problem’ by naming it meant that they were more effectively able to construe it as something over which they had some power to act. From a Freirian perspective, one might say that landholders in Downside hadn’t been able to problematise this issue to the extent that they were able to name
it therefore they frequently referred to ‘the problem’ as an entity unto itself over which they felt they had little or no control (Freire 1970).

Recognition of land degradation problems is perhaps the next step toward collective action arising out of environmental awareness. There has been much empirical work in rural sociology attempting to link attitudes and responses to land degradation. However, there has been no direct link found between attitudes toward and behaviour concerning environmental degradation (Barr et al 1992). Environmental psychologists writing in the early 1970s suggested that the perception of the environment forms a screen between attitudes and behavioral responses (Ittelson et al 1974). More recent work recognises that there are cultural screens, financial screens and ‘affordance screens’ which also mediate between someone’s attitude to and behaviour toward the environment (Graumann and Kruse 1990; Vanclay 1992; Ingold 1992). The field of environmental perception and social construction is complex and does not lend itself to simple prescriptions or unwarranted assumptions about attitudes and behaviour. However, while attempting to make this point, one recent researcher exposed his own urban intellectual roots when conducting a survey on conservation agriculture:

Farmers are not generally aware of their attitudes to the environment. They think that surveys like this are a waste of time and do not conceive of or intellectualise their responses in the way that urban professional people might (Vanclay 1992:100).

The same author also conducted research into the relationship between awareness, attitudes and behaviour of landholders and environmental degradation problems. He concluded that:

most farmers believe land degradation to be a serious problem as a general issue, but fail to perceive their own farms to be at risk. There is an ignorance of the early warning signs of land degradation, brought on by the presentation of land degradation solely in dramatic forms in the general media (Vanclay, undated:1).
Other studies support this observation (Pitt and Yapp 1992; Cary, Wilkinson, Barr and Milne 1993). However, in several instances in Downside, it appeared that some landholders who were not recognising salinity problems on their own property were not unaware of the problem, they were choosing to deny it or rationalise it.

‘Nobody likes it when their favourite theories and beliefs are contradicted by the evidence. Rationalisations of various ad hoc kinds invariably come to the rescue’ (Marks 1990:21). One very common rationalisation voiced by the following respondent was that salinity is part of an historical cycle. *The problems here have come and gone before.* Therefore, there wasn’t anything to worry about, because dryland salinity would disappear in the future in the same way that it had recently appeared.

‘Awareness’ was one of the most frequent responses to the question about community groups’ roles in environmental management. In the Downside Landcare group, members spoke very highly of the group’s role in creating more environmental awareness in the area about dryland salinity problems. However, it seems that there is still an artificial dichotomy existing in communities affected by salinity between those ‘who’ve got it’ versus those ‘who haven’t got it’ (McConnell 1979). Some landholders recognised that their land was affected by salinity, but many others were still asserting that they don’t have ‘the problem’. McConnell’s work points out the fruitlessness of such black and white dichotomies, recognising that there are many intervening shades of saline grey. Just because a landholder does not recognise full-blown salt outbreaks on his or her property does not mean that they are not affected by salinity (McConnell 1979).

Members of the landcare group often expressed anger and resentment toward non-members who refused to join the group or take individual action to prevent further salinity outbreaks on their own properties. In members’ eyes, having recognised the existence of ‘the problem’ and having transferred that recognition into their own personal experience, the next logical step is collective action. ‘But what if that experience is divided? What if different truths are discovered in reading the world from different positions?’ (Weiler 1991:453).
To unite against a common foe is one of the central tenets of Freirian pedagogy. But not everyone will react in the same way since their individual perception and interpretation of their situation differs one from another. Collective action based upon collective knowledge cannot come about among membership groups or reference groups unless there is discussion and exchange about the nature of 'the problem' which leads to a shared understanding and awareness about how it arose and what can be done about it. Community-based environmental groups are not usually reference groups, and if they do provide a backdrop against which people compare their own lives and understandings of the world, shared knowledge and collective goals do not arise out of a simple osmotic reaction based on shared values. The myth of the collective environmental goal has been addressed by several writers in the ecopolitical arena (Doyle 1986; Schrecker 1994) and is a topic discussed in the next section.

The main theme underlying this complexity in understanding the relationship between attitudes and behaviour is that these are not simply individual concerns. Common beliefs and opinions are socially constructed within the safety of a group engaged in the development of a 'communicative catchment':

The communicative catchment is one where people become active and caring in their community, environment and catchment. For this to occur, there needs to be identification with an area and with its people; participation in problem identification and decision-making; and ownership of the planning and action. It is one where differing perceptions of people are recognised and incorporated into the community through debate, discussion and discourse (Martin et al 1992:15).

7.5.2 Ways of knowing

Not all members of community groups joined with the expectation of learning, indeed most of them did not have that expectation, as illustrated in Chapter 4. However, across all three community groups, members reported learning as the most frequent personal outcome arising from their involvement with the group, followed closely by the satisfaction and enjoyment of being a member:
I'm getting a lot [out of the group], understanding how things are, support from [the group] and then we'll get more involved when we understand. If we don't understand anything, then it makes it harder for us [to get involved] (Mitchell River group member, August 1993).

It has educated me regarding environmental issues — I know a lot more than I did (Downside Landcare group member, September, 1992).

I've learned new skills through sampling and profiling the technical side of calculating [phosphorus] loads (Water Watchers group member, March 1992).

Adult education theory sheds light on the ways in which adult members of community groups learn. To start with, these 'learners' are group members because they want to engage in collective action toward finding solutions to real problems at the time the problem has presented itself — not before they have had exposure to it (Jarvis 1987). In other words, there is a practical focus to this type of learning — not for the sake of passing an examination or gaining credentials for a job, but for the sake of working together to overcome an environmental threat. In this case the learning process is a byproduct of group membership. And the learning is founded upon incorporating the experience of group members in a way which is determined by each group member — not a teacher or a lecturer or an agricultural extension officer. The learning is totally controlled by group members in an environment which: creates equality, respects diversity, draws upon individual experiences, facilitates shared responsibility, incorporates experimentation and innovation, accounts for emotional attachments to places and people within the group, and encourages social interaction. Indeed, it is this last factor which some theorists believe underlies the whole social learning context.

Social learning theory rests upon the notion that individuals' behaviour in small groups is culturally determined by the 'nature of the group activities in which the individual participates and through which he [or she] is moulded, and which in turn, are frequently moulded by [the individual]' (Dunn 1984:171). Social learning is therefore a collective experience largely determined by the relationship between the individual and the group, and is especially effective in 'making sense of complex,
turbulent environments' (Dale 1989:51). One of the reasons posited by social learning theorists for the effectiveness of this type of learning was that small group environments actively support their members and provide a safe context for experimentation (Friedmann 1984; Dunn 1984). This is certainly true for both the Water Watchers and Downside Landcare group. Based on the evidence from these case studies, I would add that social learning is more effective in conditions under which there is a strong sense of community.

Social learning relies heavily upon social practice or experiential learning in a group situation. Recent theorists have labelled this phenomenon action learning — the conceptual perspective most easily juxtaposed with action research. Action learning, as opposed to socially active learning can take place individually. Socially active learning acquires significance and has the potential to change behaviour and attitudes within a group setting. Both types of learning imply a continual process often likened to a spiral where observing, abstracting, planning, acting, and reflecting or reviewing take place within a specific experiential context (Grundy 1982; Carr and Kemmis 1986; Zuber-Skerritt 1992). The benefit of a socially active learning style is that these stages can be discussed among group members through a process of dialogue and exchange which facilitates action learning. This has the added potential to lift the level of learning from individual practice to emancipatory action learning in which the emphasis within the group structure changes and the responsibility for action is shared by the whole group (Grundy 1982). Building upon the ideas of Richard Bawden, I submit that the group process enriches the quality of reflective action such that 'improvements in what we do... can come about by changing the way we make meaning rather than just reinterpreting the meaning we usually make' (Bawden 1991a:88).

Consider the case study evidence in light of the preceding discussion of socially active learning. During the focus group session, members of the Water Watchers group listed 'doing something' as the primary reason for joining the group because 'doing something' led to results. *Getting results back and seeing something CONCRETE for the year's work* was listed as one of the high points of involvement in the Water Watchers group. Following the principles of action learning (albeit
unwittingly), another water quality monitoring group in Albany, Western Australia adjusted the ‘tools’ required to monitor stream flow rates. Members of the Water Watchers group heard about the use of this ‘new technology’ and accordingly adjusted their own measuring techniques. The adjustment was an entirely pragmatic one. Members of Water Watchers used oranges (which float) for the purpose of calculating rates of stream flow by measuring the length of time taken for an orange to float over a set distance. By exchanging the use of an orange for the use of a honky-nut (gumnut) for the same purpose, some members of Water Watchers found they experienced less difficulties in floating the honkey nuts. This was especially true at the beginning of the wet season when the water was often too shallow to support the weight of an orange. In Albany, gumnuts had been experimented with and found to be equally ‘valid’ an instrument, and not nearly as expensive compared to oranges. They were therefore adopted as a ‘new tool’ in the Water Watchers’ kit bag of technological innovation.

In the case of the Downside Landcare group, members gained a lot of agricultural information from each other. They also depended upon the extension services of the Department of Agriculture and the Department of Conservation and Land Management. On the basis of extension information delivered either in person or through newsletters and information sheets, group members were also able to trial new ideas and innovations among themselves. One specific instance of socially active learning which I observed during fieldwork was during a local bus tour of the area. Bus tours were a regular feature of group activities to disseminate information and monitor local conditions. They also served to reinforce group cohesion, an important part of sense of community discussed above.

The bus tour on this occasion was a local one to inspect trials and demonstration sites on various members’ properties. The tour included an inspection of direct seeding trials, lucerne growth under a phalaris pasture, minimum tillage demonstrations, and a saline discharge site that had been planted with native trees 14 months earlier. Members showed considerable interest in finding out exactly how each of the demonstration sites had been created. At the minimum tillage demonstration, the landholder of that property reported that he had read about the
application of nitrogen to a mature wheat crop to increase its capacity to produce protein. He told the group he had decided to trial this on one section of his crop and asked for ideas about how to apply it given the crop had well established grain heads which he did not want to disturb. After a lot of discussion and excitement (due to the prospect of exacting a higher price for grain with increased protein yields), several other landcare group members decided to trial the same application of nitrogen on their own properties. To protect the mature crops from damage by tractors and other vehicles, the group decided that it would be worth collectively hiring an aerial cropduster. The arrangements were made there and then in the paddock at the demonstration site with three or four individual landholders agreeing to share the cost of hiring the plane and pilot to do the job.

Given that this observation was just one instance of socially active learning among group members, I would expect this sort of exchange to occur on a regular basis. Evidence in support of this claim was reflected in the interview data. Interviewees were asked what they personally had got out of working with the group. Typical responses included: learning about different species of salt indicator plants — plant identification; I know a lot more than I did; or it makes you look a bit closer at your land from involvement with the mapping [exercise] — it makes you take a bit more notice of things and gives you more ideas [about] what you can do. It appears that members gained a lot from the opportunity for discussion and exchange of ideas among themselves and implemented individual solutions on private properties as a result of these discussions. I believe that the landcare group is a prop for social learning and without it extension of ideas and information throughout the community would not occur to the same extent. To summarise the issues involved in this subsection:

♦ Community groups such as Water Watchers and the Downside Landcare Group are seen as useful and valuable sources of information and advice by members.
♦ Non-members of groups do not have the same access to this type of informal extension and support.
♦ Through discussion and exchange, groups engage in socially active learning in a small group context most conducive to their culture and local needs.
7.5.3 **Local and traditional knowledge**

The role of local knowledge for groups engaging in collective action is critical. Local knowledge incorporates information about local conditions, collective wisdom of local culture, intuitive concern, and evaluative understanding of local places (Krimsky 1984). An aesthetic appreciation should also be added to this list on the basis of the three community groups’ experiences in this study. Local knowledge is very important for people outside local communities; for scientists, historians, artists, anthropologists, journalists, and many others. In an environmental science context, the work of Brian Wynne illustrates how sheep farmers’ local knowledge contributed to scientists’ responses to the radioactive fall out from the Chernobyl disaster (Wynne 1989; 1992). Taking an Australian example, local farmers’ knowledge of catchments has contributed in an important way to the understanding of dryland salinity within an environmental management context (Martin and Lockie 1993).

Many authors make the point that establishing a hierarchy of knowledge from local to global, particular to generalised, or from descriptive to analytical is not very helpful (Geertz 1983; Hunn 1993; Martin and Lockie 1993). The latter authors, building on the work of Leeuwis, Long and Villarreal, propose knowledge networks as more appropriate for the dissemination of knowledge. They claim that knowledge networks disseminate knowledge across space and time more effectively than hierarchical systems and that: ‘a catchment can be thought of as sets of communications and interactions between actors involved in different knowledge networks’ (Martin and Lockie 1993:13). While arguing that a catchment is far more than that, the concept of a network to express the complexity of local knowledge production and dissemination within a community group is useful. Consider the following example from Water Watchers whose ultimate success in terms of collective action has been jeopardised in part due to a break down in communication between members of the ‘network’.

Community group members have the ability to understand where the community is ‘at’ and act accordingly. This implies knowledge of the local landscape and conditions, as well as knowledge of individual members’ skills and abilities. Based
upon previous experience with hierarchical scientific systems, interviewees told me that there is no point adopting broad environmental management strategies based on elaborate scientific evidence and regional planning jargon if the community group is not in a position to understand or appreciate this type of approach. Unfortunately, hierarchical strategies of this type had been used for the last 15 years in the Peel Harvey region (Bradby 1992). By early 1992 inappropriate management strategies and non-participative planning mechanisms had weakened any semblance of credibility local people may have ever placed in government which effectively removed most Commonwealth and many State government agencies from local knowledge networks.

Local government on the other hand acted in conjunction with Water Watchers as just another player. The Serpentine Jarrahdale Shire Council used the existing knowledge base of the community to develop a skills register of local residents based on a search conference held with community groups. During that exercise, local people suggested that in order to make better decisions about local environments, it was necessary to have a realisable list of community assets. This did not stop at the level of services, land values and capital items, but also comprised residents’ skills and expertise (Shire of Serpentine Jarrahdale, Local Rural Strategy Workshop). Subsequently, the Shire undertook to compile a register of locally-based human resources which could be drawn upon in future. In a group with a relatively weak sense of community compared to the other groups in this study, this register may have assisted Water Watchers to become more self-reliant and to have increased the strength and flexibility of the group. However, it did not come in time to prevent the ‘public education’ campaigns about nutrient enrichment to continue legitimising the government-sponsored hierarchical systems of knowledge dissemination against which the group reacted.

Aboriginal members of the Mitchell River Watershed group also emphasised the importance of group networks in educating and preparing local people to look after the catchment for future generations. This local knowledge function was seen as particularly relevant for younger Aborigines. Toward this end, the Kowanyama State High School and the Kowanyama Aboriginal Land and Natural Resource
Management Office developed a special curriculum focussing on the importance of the Mitchell River as a vital link within the whole catchment. The curriculum was designed and taught in conjunction with the Counsel of Elders in an effort to recognise the specialised local input of older Aborigines in traditional ecological knowledge. The curriculum is multifaceted and aims:

- to develop and consolidate literacy skills across the curriculum and to increase awareness of the need for the sustainable use of land and natural resources using traditional Aboriginal knowledge as the basic resource (KALNRMO and KSHS 1993:4).

This curriculum was assessed by the Queensland Department of Education and registered by the Board of Senior Secondary School Studies of Queensland as a junior high school subject. The rationale for developing this proposal was especially significant in terms of the importance Aboriginal elders place on future land management decisions and the passing on of traditional ecological knowledge. The proposal states:

This community considers the retention and continuation of traditional knowledge and skills as a means for affirming the Aboriginality of its community. The course seeks to prepare Kowanyama youth to take their places as future natural resource managers and users... This program recognises:

- the legitimacy of Elders as teachers;
- the importance of physical geography for the culture and lifestyle of the Kowanyama people;
- the need to link past and present Aboriginal ‘care for country’ with future management practices;
- the necessity for relevance in school curriculum;
- the importance of stimulating relevant experiences and contexts in language learning (KALNRMO and KSHS 1993:5).

One of the Aboriginal interviewees at Kowanyama expressed his disappointment at lack of education and training opportunities for Aboriginal people: *They don’t know what to do — Aboriginal people are not as brainy as white people; but they got to know! Young people must have proper training — in the near future it will be their...*
future they're caring for. While recognising that European systems of education are important to Aborigines, another interviewee spoke of the importance of recognising traditional and cultural forms of local knowledge.

*Getting acceptance of each others' expertise* [*is a problem*] *when talking about technical and practical* [knowledge] *and the gap of expertise between scientists, graziers and Aborigines regarding expert and local knowledge* (Mitchell River group member, August 1993).

In the context of Aboriginal participation in the Mitchell River group, traditional ecological knowledge was especially important. It is usually defined as:

- folk taxonomies (the ethnobotanical and ethnozoological classifications of plants and animals), and as indigenous understandings of 'natural' processes (systems of relationships involving plants, animals and various supernatural and environmental factors)... It is a knowledge which has an immediate relevance and application for specific societies in particular environments (Lewis 1993:8).

Traditional ecological knowledge is traditional in the sense that it is still evolving and is not static. It is ecological in the sense that biophysical knowledge is integrated within cultures defining themselves as religious, aesthetic, economic and societal structures (Hunn 1993). Whilst on fieldwork in Kowanyama, an event that took place several months beforehand was relayed to me by interviewees who emphasised the importance of the survival of 'pure' ecological knowledge from traditional sources. I have re-interpreted this event as a traditional ecological practice applied in a modern context by younger Aborigines which contributed to an ecological disaster. In Kowanyama, one of the traditional methods for catching fish in the river and waterholes was to 'poison' them with a mixture of leaves and root materials from native plants growing alongside the river. Fish would be stunned from the effects of the plant chemistry and float to the surface allowing an easy catch. One day, several young high school students believed they could catch fish from the Magnificent Creek lagoon in the same way. However, instead of using the traditional methods and plant materials derived from native plants, they used several
tins containing dieldrin and chlorpyrifos taken from the agricultural chemicals shed at the council. The whole ecosystem of the lagoon was upset, some fish and shellfish died and people were advised not to eat anything fished from that lagoon. Now, more than a year later there are still traces of chemical toxins in the fatty tissues of resident fish populations. However, there are no chemicals in migratory fish and populations have returned to normal.

There is a happy end to this story. After the event, members of the Mitchell River group rallied in support of the community and the Kowanyama Aboriginal Land and Natural Resources Management Office implemented ecological monitoring, awareness raising through publicity materials and educational seminars with high school children and local Aboriginal elders. The positive features of this event can now be recounted and recognised not as an act of vandalism, but as one attempt to use modern technology misused in the context of traditional fishing techniques. There are many, more positive examples of the use of traditional ecological knowledge by Aboriginal members of the Mitchell River Watershed group to educate non-Aboriginal members, however, there is insufficient room here to document these.

In the Mitchell River Watershed, traditional ecological knowledge is evolving in Aboriginal communities, on grazing properties, in mining camps and with regard to commercial fishing operations. Traditional does not necessarily mean indigenous, it could also refer to folk knowledge such as that used by agrarian societies under the banner of rural people’s knowledge (Scoones and Thompson 1992; Millar 1992). But just as traditional ecological knowledge can be harmful when randomly mixed with ‘Scientific’ solutions, so it can provide a unique perspective which complements and extends universal scientific knowledge. This point is elaborated further in Chapter 9 regarding the use of science and agricultural extension techniques.

‘Knowledge is power’, Hunn reminds us, ‘often used to justify a policy of secrecy, of withholding information from competitors or other outsiders’ (Hunn 1993:14). Outsiders such as anthropologists have been barred at times from recording the traditional ecological knowledge of some Aboriginal communities. According to
Hunn, traditional ecological knowledge should be shared with scientists in a cooperative intellectual endeavour, for if not shared 'it can benefit only the few who are privy to it' (Hunn 1993:14). However, on the basis of the case study groups in this research, the power and equity relations underlying such 'cooperative' efforts require careful negotiation lest unscrupulous scientists be accused of using coercive means to uncover such traditional knowledge.

7.6 Empowerment

The empowerment approach ... places the emphasis on autonomy in the decision-making of territorially organized communities, local self-reliance (but not autarchy), direct (participatory) democracy, and experiential social learning. Its starting point is the locality, because civil society is most readily mobilized around local issues (Friedmann 1992:vii).

Ingroup politics, decision-making, equity in terms of gender, race and class — all of these can fit well into any discussion of empowerment within a community group. They are all equally important when applied to extra-group relationships too, especially between community groups and government organisations because these issues affect the ability of group members to act collectively, and because these issues are the fundamental bases of democratic ideals in society. However, it is beyond the scope of this dissertation to enter into a theoretical discussion of each issue. Instead, these issues have been divided into intra-group issues for an analysis of horizontal integration and extra-group issues for an analysis of vertical integration and illustrated when evidence from the case studies warrants such attention.

7.6.1 Horizontal integration — equity

Horizontal integration refers to 'the structural and functional relation of the community's various social units and subsystems to each other' (Warren 1963:240). The latter authors go on to define this type of integration as egalitarian in nature with flat power structures such that power is not concentrated in the hands of a few people, but shared. Gender equity within groups is one such example of how far the principle of horizontal integration has been put into practice with regard to rural decision-making structures, traditionally a male domain. Both Water Watchers and
the Downside Landcare groups did include women; consider the following evidence from both case studies to illustrate this point.

The involvement of women in Water Watchers was a sensitive issue, but an integral one to the group's activities. Because the group was originally funded through the Office of Women's Interests, there was some initial discomfort on behalf of the men involved who perceived that somehow they were being excluded. Through the careful and tactful approach of the woman coordinating the group, everyone was made to feel welcome and integral to the group. The role of women is a central theme of this case study. One woman mentioned that she originally became involved with Water Watchers to prove to herself and others that she was capable of being an individual recognised in her own right outside the home: *I want to let people know that I've still got a name.* As this woman and others like her became more involved, they often became the prime movers behind the scenes in many instances:

*It's a personal issue first and then a community issue, women tend to look around for something creative to do to break out of the 'bored housewife syndrome'. Then if you get satisfaction and more self-esteem and think that the contribution you're making does not require a lot out of you, then the project is worthwhile* (Water Watchers group member, March 1992).

Other women became involved as they moved from a functional concern with the home environment as primary workers and caregivers, to a concern with the school and community as their children got older. To support this claim, several comments illustrate the expansion of women's interests in community and environmental issues as factors which motivated them to become involved: *[We're] trying something new, branching out of one mould, diversifying our skills.* One respondent said that arising from her commitment to working with community groups she became interested in the Ratepayers Association. Eventually that group became the Women's Environmental Impact Group which shared many members with Water Watchers. Through a chain of associations with the home, community, environment and longterm future, I realised that women in Water Watchers were not separating one
issue from another. As another respondent stated: once there’s a willingness to help others and be involved, this gives you a long-sighted approach to what you’re living in — the environment. Although confusing at first, it was apparent that the women in this group were effectively bridging the socioeconomic and biophysical gap and working at ‘integrated catchment management’ on a level perhaps far removed from the government definition of that concept. It was also apparent that these women felt a great deal of pride in their achievements.

The EPA was told to sit up and take notice — they were quite amazed that this information had come from a group of women playing with water in the creeks of Byford (Water Watchers group member, March 1992).

The number of women and the strength of their motivation to work with Water Watchers was also mentioned by government employees and teachers associated with the children’s group — Slug Busters. As one school principal said: My Dads I never see, its always the Mums. He suggested that women’s involvement with Water Watchers and Slug Busters was generated out of a concern to protect future generations and future environments. Other government employees noted that often women were the ones who came up with the more practical suggestions about how to invent a solution to a specific problem.

Another aspect of women’s involvement pertinent to a discussion on equity issues was that it gave women legitimate roles as decision-makers on the Water Watchers committee. One government employee reported: where women see a role [in environmental management] as an extension of their home and community, they are more likely to be involved at that level. Getting out of the house to meet like minded people and discuss environmental issues of importance with other women who may otherwise have felt stuck at home was another factor. This observation was also recorded in the Downside Landcare group.

The Downside Landcare Group was very progressive in terms of its involvement of women. However, its experience differs from that of Water Watchers. Equity in terms of affirmative action was not seen to be an issue, because there was no need.
There were 10 committee members, 5 of whom were women and 5 men. Women hold positions on the Executive Committee and unlike other landcare groups, there was a noticeable involvement of women independent of their spouses and involvement of single women. This was readily acknowledged by the group who were proud of their track-record involving women in landcare.

It is difficult to understand why there were significantly more women involved in Downside than in other landcare groups. It may have been due to the existence of the female landcare facilitator in the area, or to the strong leadership provided by the Downside group’s secretary and publicity officer — both of whom were women. However, what is more interesting and noteworthy about women’s involvement in the Downside Landcare group was the way in which that influenced the direction and motivation of the group. According to Brown and Switzer (1991), women’s involvement in environmental issues is based on a vision of society which reflects their concern with the environment but not at the expense of the economy. This concern is founded on a lifetime, for some women, of working in community services, where social injustice is more obviously linked to poor environments and poor economic health (Brown and Switzer 1991).

It is well recognised that women have a great deal to offer to landcare. They are more interested in the environment and health issues. They are more prepared to take a long term view, they have a great deal of practice in administration and organising, they are resilient (Duxbury 1992:140).

Women in the Downside Landcare group influenced other members to become more involved with local community organisations. The group has had quite a lot of contact with a local primary school in liaison with the group’s facilitator. Women’s involvement was also responsible for much of the social cohesion developed in the group. In rural areas the inevitable message at the bottom of any invitation to a gathering is: ‘Ladies bring a plate’. In Downside, every meeting involved eating something. Supper was always provided by the women who attended meetings and this served an important sociological function in group structure. After the formal
proceedings had finished, the kettle was always boiled for the ‘informal meeting’ which in many ways was the main reason people attended.

To focus on the provision of food by women in the landcare group is not to deny the crucially important other roles these women play. However in Australia, these are traditionally recognised vehicles of expression for women’s involvement in rural affairs which in this case served as the introductory point for future involvement. For example, when hosting a dinner for a visiting contingent of New Zealand farmers, one previous non-member became involved with the landcare group because she had been personally approached to assist with the cooking. Once she attended the function and became interested in landcare, she joined the group. This entry into landcare served to embark this particular woman on a personal development journey which raised her awareness about landcare and other environmental issues in a way she may not previously have had access to had she not ‘brought a plate’. She is now on the executive committee of the Downside Landcare group.

While gender-based equality was not the only basis for equity within Water Watchers or the Downside Landcare group, it was certainly the most common. Cross cultural equity was rarely mentioned and equity across social strata was only alluded to in passing. However, equity in sectoral and geographic representation in both groups does merit closer examination. As discussed in Chapter 5, representativeness was interpreted widely by members of all three community groups. However, it was generally agreed that each group was more or less representative of its region. Representation in community groups is consistently questioned by governments when it appears that one sector or another has ‘control’ over community resources and politics. Neil Barr and Roger Wilkinson of the Department of Food and Agriculture in Victoria write pointedly of the importance of two way flows of information between group members and the wider community to increase representativeness:

Working group members must consult members of the community informally throughout the life of the group, but especially when there is a difficult decision to be made. Only
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if they make a real effort to keep in touch with community values can working group members maintain this valuable gatekeeping role (Barr and Wilkinson 1992:130).

7.4.2 Vertical integration — self reliance and self-determination

This ‘gatekeeping’ role raises the issue of community groups’ relations with those outside the group itself. Warren (1963) stipulates that ‘the structural and functional relation of [a community’s] various social units and subsystems to extra-community systems’ contributes to vertical integration (Warren 1963:240). In this study the focus is not so much about the community’s relations with those outside it, but the community group’s relations with those local and regional structures outside the group. Vertical integration is operationalised here to the extent that the group feels able to be directive, or purposive in taking control over factors relating to the environmental management of local places. The Mitchell River group is a very good illustration of the extent to which community self-determination was in evidence.

One of the more noticeable factors about the Mitchell River group was members’ pride in and attachment to the idea of ‘bottom-up’ environmental management of the watershed. This is largely due to the group’s roots and to the concept of watershed management espoused by conference participants at Kowanyama in 1990. While many of these were government officers, integrated catchment management was not yet government policy in Queensland. Conference participants applauded the move to form a catchment management group for people who lived and worked in the region rather than those from government agencies based in the regional centre of Cairns, which is outside the watershed. After all:

Community control means that decision-making processes and organizational structures within a community are especially designed to give all members of a community the power and means to manage their own affairs (Nozick 1992:99).
Operating concurrently with the belief in self-determination is the notion that ‘we know what is best for our community — not government’ and ‘we don’t want any government people interfering in our affairs — we don’t need their handouts’. Self-reliance is a large part of the ideology of life on the Cape. Born out of an historic need, it is a strongly ingrained ethic among group members. They believed that their group have been ignored by government in favour of Integrated Catchment Management committees in more populated areas. This feeling has contributed to a strengthened commitment to ‘go it alone’, proving independence and community ownership. For example, when the Mitchell River group was deciding on a constitution, it could have opted to choose an ‘off-the-shelf-variety’ and model themselves on the already existing Landcare ‘C’ constitution. However, changes were made to that document in favour of recognising the group’s individuality and reflecting the unique nature of the watershed.

The same sense of self-reliance was present in the Water Watchers group who were fighting to prove that high phosphate levels in the streams and creeks at the top end of their catchment were not due to farmers’ over-applications of superphosphate. It was this self-reliance that injected a sense of mini war (in the words of one interviewee) into a group of landholders who started *fiddling with the drains* to the surprise of the Water Authority of Western Australia. The problem was that nutrients were being leached from adjoining paddocks into the drains during summer where the resulting phosphorus loads contributed to the algal blooms in the Peel Harvey Inlet. Having made several unsuccessful requests to the Water Authority to help sort out the problem, farmers saw the Minister for Agriculture, got his approval and together with the officers from the Community Catchment Centre, sandbagged the drains thereby producing a very effective dam. Later, the Water Authority worked with the farmers involved and constructed a concrete dam. According to one interviewee: *the cockies knew it all along*. They were the ones who had come up with an innovative, practical and highly effective solution based on the principles of self-reliance. It was this same tendency toward self-reliance in Water Watchers which gave rise to a decision to ask local firms to donate necessary equipment and promote the aims of the group via ‘freebie’ advertising in local newspapers. According to Wismer and Pell (1981), self-reliance in communities, demonstrated
through the acquisition of 'goods in kind' and donations of time, gives rise to more favourable responses from official sponsors and governments when and if that group requests funding at a later date.

Although some members of the Water Watchers group believed they were heavily self-reliant, others did not perceive themselves to be powerful determinants of what happens in their community. Some Water Watchers interviewees spoke about not being able to influence community decisions. This theme of lack of self-determination was a common one among those interviewed closer to the urban metropolis who felt unable to contribute to 'real change' toward environmental sustainability. A sense of futility existed especially among respondents who were non-members of Water Watchers:

_We don’t want to know about what happens past our front gate. [Our attitude is] ‘society should do it — it is government’s responsibility — council’s job — why should I do it?’ People don’t see themselves as a community or as able to determine their own future_ (Water Watchers group non-member, March 1992).

He was speaking of a lack of self-determination on the basis of his experience with boy-scouts' groups. As a teacher he perceived himself to be isolated in his professional activities. Environmental studies, while a keen interest of his own, was not officially recognised by the school in which he worked. As he believed himself the only one to 'do anything' in his area, it is understandable that he experienced isolation and disenchantment. Interestingly, although he experienced futility in his role as Cub Scout leader, he spoke highly of the comradeship he felt with another of his community interests, the Bush Fire Brigade. On the basis of this observation, I suspect that it is only within the solidarity of a group of peers with a strong sense of community that people such as this interviewee feel able to make a difference. Self-determination is a feature of groups where members are contributing equally to the costs of producing a collective good and not leaving it all on the shoulders of a few.

In the Downside Landcare group, vertical integration was quite high for both self-reliance and self-determination because they perceived these not in terms of
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It's an expression of the sorts of things that people do together — community spirited people working together — not individual and entrepreneurial only. [Landcare is an] example of how to get things done — demonstrates DIY — [and it] has helped change attitudes toward the group (Downside Landcare group member, September 1992).

Figure 7.6: Community groups by degree of horizontal and vertical integration

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<tr>
<th>Vertical</th>
<th>Horizontal</th>
<th>More integrated</th>
<th>Less integrated</th>
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<tr>
<td>More integrated</td>
<td>Downside Landcare group</td>
<td>Mitchell River group</td>
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<td>Less integrated</td>
<td>Water Watchers group</td>
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In the past, self-reliance was seen as a highly desirable attribute of rural life. In all three groups, 'I'm alright Jack' was the catchcry of farming pioneers who protected their own and relied on their own resources. Self-reliance and the concurrent lack of need to ask anyone else for help is still strongly admired in rural communities. Just as in the early days, when the harshness of land was reason to knock is down, burn it and plough it over, there is still a tendency for landholders to band together in the face of adversity. However, as noted in Chapter 2, there seems to have been a subtle shift in rural Australia lately from being in battle with the environment, other farmers and having to rely on one's self for support, to being in battle with the
banks or the government and relying on community spirit for support. In Downside, there was a tendency to support and nurture group self-reliance with respect to other institutions along a vertical scale. However group members also demonstrated strong horizontal integration arising from their well developed sense of community and sense of place. The three groups can be characterised as either more or less integrated in terms of both horizontal and vertical axes, see Figure 7.6. Please note that the Mitchell River group started out as being neither vertically nor horizontally integrated, but have moved progressively toward being more integrated on the horizontal scale.

**Figure 7.7: Principles for community-based environmental action**

7.7 **Summary**

Gardner (1990) claims that a 'do-it-yourself' attitude is a reflection of a widely held rebuttal of government attempts to undertake measures toward ecological sustainability, a topic discussed further in Chapter 8. But perhaps more important than an emphasis on political power, local knowledge claims, a sense of community or a sense of place individually, is an emphasis on collective action arising out of a
combination of these principles. After all, if community groups do not begin implementing 'on-ground' change through collective action, how will the critics of environmental stewardship be assured that community groups are making a substantive contribution toward sustainable environmental management. The real crux of collective action is best illustrated by the Water Watchers interviewee who said: *group action is more effective than individual action in bringing about change.* To paraphrase another respondent: *if the group has shared duties and is action-oriented and the people in the group are energetic and enthusiastic, then this is a very attractive reason to join.*

For each community group, collective action corresponded to a move away from traditional representative systems of government towards one in which group members have more direct influence over community issues. According to academics writing about environmental interest groups, this is occurring through more local people in community groups, different types of people involved in decision-making, and better consultation with governments (Sewell, Dearden and Dumbrell 1989). The extent to which people are acting together in community groups is an indication of a belief that environmental problems can be 'solved'. Building on community development theorists, Heller (1992) says that one of the essential conditions for community action is that there is a sense that the problem is solvable, whether it is or not. Figure 7.7 illustrates a model of the way in which these four principles contribute toward collective action by community groups. Perhaps its resemblance to a molecule from organic chemistry reflects community group structure itself — flexible but cohesive.

Having understood how each of these principles was evident within the case studies and how they relate to the literature, it is important to restate that community-based principles of environmental management are not sufficient conditions alone for collective action on environmental problems. It would be naive to suggest that localism is the 'orthodox elixir' to all manner of biophysical, social, political and economic woes encountered in rural communities (Mowbray 1985). The other vital components of this equation are the principles arising from governmental action on local environmental management, discussed in Chapter 8.
Government involvement in environmental management
Photograph by: Peter Jarver, Thunderhead Photographics
Aboriginal fire management, Cape York Peninsula, QLD.
CHAPTER EIGHT — Government involvement in environmental management

8.1 Introduction

This chapter focuses on conditions for government involvement in sustainable environmental management in the same way as the last chapter detailed principles of community involvement in environmental management. Implicit in this analysis, as with Chapter 7, is the thesis that neither community groups nor government agencies alone can effectively undertake environmental management at the local level. While it is generally accepted that governments have traditionally supported community groups undertaking environmental management, this chapter illustrates new trends in government which allow community groups to support and enhance the ability of government agencies to work in this area. However, not all agencies are effectively managing this trend. During fieldwork, there was overt confusion at times around the role of government in local environmental management. Several government interviewees prefaced their remarks about government involvement in community-based environmental management with the caveat that ‘it depends’ on the goals and values of government in the longer term: Governments have to sit down and ascertain ‘if this group is worthwhile’ — and then ‘how worthwhile is it?’ — and then, depending on the degree of benefit to the community, give appropriate support. The same officer also said that the role of government officers at community group meetings: depends on the group and whether they want government officers to be advisory or right in with it boots and all. It depends on the group’s aims and objectives as to how involved they want government. Obviously some government officers are uncertain about their role in relation to what community groups are doing — whether it is a top-down initiative or a bottom-up initiative. On the whole, however, interviewees were quite clear about what government could provide to support community groups conducting local environmental management. These principles; resourcing, facilitating, informing and advising, consulting, encouraging participation and providing the political will, are discussed below.

There are some general comments pertaining to each of the community groups’ interactions with government which are relevant here. Firstly, the distinction between processes and principles of government involvement is far less clear than that pertaining to community involvement in environmental management. In a
sense, resourcing, facilitating, advising, consulting and regulating are the goals of
government involvement in environmental management as well as the means or
processes of attaining those goals. Some are more statements of policy, where that
nebulous concept is defined as: ‘a statement of intention; a definition of how things
should be and an avowal that the institution in question will do something about it’
(Dovers 1994a:1). I have chosen to use ‘principle’ to mean both goals and
processes of government involvement in environmental management. Secondly,
principles of government involvement in environmental management at national and
international levels (or policies) are not always apparent at the community level.
What is done toward developing strategies for sustainability of local environments
agreed to in international symposia is not necessarily the same as that which is done
in local communities in practice. Therefore, the approach taken here, (consistent
with the principles of grounded theory elaborated in chapter 3) is to document
government involvement in environmental management as evidenced by the three
case studies, rather than use agency mandates or other government policy statements
to generate local principles.

As with the principles of community involvement in local environmental
management, these government principles were first documented in the working
papers which summarised each case study (Carr 1992; 1993b and d). They
represent evidence from the case study community groups combined with insights
and reflections gained from the growing literature on this subject. They are
presented in Table 8.1 with weightings derived from my analysis of their relative
importance and discussed further below. However, the level of detail about the
principles of government involvement in environmental management is considerably
less than that in Chapter 7. This is largely due to the emphasis in each case study
on the community group studied rather than government policy. In each case, only
about one third of all interviews were conducted with government officers. It is also
due to a gap in the literature which covers government environmental management
policy and how that is implemented at community level.

Before elaborating upon these principles, it is important in these next three sections
to recapitulate the key features of government involvement in each of the case study


Table 8.1: Principles for government involvement in local environmental management across three case studies

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Key: • Minor importance • Some • Major importance

community groups. The role and position of the facilitator differs markedly from group to group (as noted in Chapter 6). Although I am mainly concerned with 'government' as the bureaucracy, 'government' as the political system is briefly analysed toward the end of the chapter.

8.1.1 Water Watchers: key features of government involvement

The Water Watchers group began with financial assistance from the Western Australian Office of Womens' Interests which was especially interesting since they were an unexpected source of funds for an environmental project. The Department of Agriculture were also significant and had officers based in the community at a regional Community Catchment Centre. The Centre provided information, skills
and expertise, but more than anything else they provided active listening and facilitation skills. The group's facilitator served as an administrator/secretary while he was working in the district and implemented a number of environmental education programs which have had a lasting impact. However, despite all these positive features of the Catchment Centre, one of the central concerns of the Water Watchers group was a lack of continuity. Government-salaried facilitators (as opposed to the other two facilitators who were funded by government but employed by the community group) did not stay in the job and the group itself lacked a stable organising committee. This may have been largely due to the geographic proximity to Perth and to the fact that government officers were not promoted into these positions from the surrounding community. Often they lived in Perth and commuted. Very few had any real ongoing commitment to the Serpentine Jarrahdale area, or to the Peel Harvey region further to the south.

Yet, despite all this, the Community Catchment Centre was a very effective bridge between community and government. One of the seemingly insurmountable problems for increasing the level of interaction between community and government was integrating the attitudes and perceptions of people 'on the ground' with the diverse forms of technical/scientific, governmental and political support available. Sifting through the myriad of complications, issues and history of assorted local problems required a unique approach, one which was capable of motivating a majority of the community, establishing goals and implementing action plans that were sustainable and acceptable to local people. In short, there was a need for a methodology for integrated catchment management. Burton noted that Australia can no longer afford to borrow methods used overseas toward integrated catchment management and planning:

There is a real and urgent need for the development of an appropriate indigenous methodology before we can expect to implement integrated catchment management approaches effectively on a State and national scale (Burton 1992:7).
Toward this goal, I believe the model of support offered to the Serpentine Jarrahdale community by the Community Catchment Centre was an important example of one such indigenous method.

8.1.2 Downside Landcare: key features of government involvement

The Downside Landcare group had traditional ties with the New South Wales Department of Agriculture and the Department of Conservation and Land Management. The officers who represented these departments lived locally and were well respected as members of the regional community of Wagga Wagga. However, there were still some adjustments to be made in the minds of these officers in terms of the benefits of landcare specifically and group approaches to sustainable environmental management in general. Some of them still wore their specialist hat to landcare gatherings and insisted that fixing land degradation was a matter of technical expertise and experimentation, despite Campbell’s claim that ‘the deficiencies of the linear model of information flow from research to extension to transfer to diffusion have been exposed for many years’ (Campbell 1994:14).

However, the Downside Landcare group’s facilitator was no such technocrat. She was a landholder in the Downside area, had family ties in the community and a history of farming and teaching in rural communities. In short, she was someone the landcare group could relate to very well and was hired by the group with funding from the National Landcare Program. She did not leave the district and, whilst acting as facilitator for the group, did not take responsibility away from the group. Instead, she encouraged members to seek out other government departments through which the group diversified and strengthened their governmental contacts.

8.1.3 Mitchell River Watershed: key features of government involvement

Like the Downside Landcare group, the Mitchell River Watershed group started life without the assistance of a government-funded facilitator. However, unlike that group, the Mitchell River group waited a long time before they were able to appoint someone. The person who was appointed moved from Townsville, lived in the Atherton tablelands and had emigrated to Australia from North America. It was for
precisely this reason that the facilitator of the Mitchell River group was accepted by the residents of the watershed, which was quite different to the experience of the other two groups. He did not represent any one agency, industry or region and fitted in with the ideals of life in far north Queensland very well. As with the appointment of an English person to the position of National Landcare Facilitator, perhaps he succeeded in the group because he did not have an Australian accent nor a loyalty to any one region or industry body. This is an important exception to the two groups’ facilitators discussed above. If this thesis were attempting to prove anything, it would be that no set rules apply to the formation and establishment of community groups involvement in or government practice of environmental management.

The Mitchell River group started out with a large contingent of government officers which far outweighed the representation of other sectors of the community. There are still a long list of departments and subsections of government departments represented on the group. However, all government officers were ‘reclassified’ as members of the group and have been given the same rights and responsibilities as ordinary community members. This was done partially to avoid the dualistic notions of experts and community members and partially to increase the ownership of both parties in an effort to increase members’ willingness to shoulder responsibility for the catchment. Unfortunately, not all government officers on the Mitchell River group actively define themselves as group members, and many do not recognise non-government or community members as the core of this local organisation. When asked ‘who are the members of the Mitchell River group’, one government interviewee listed all the government agencies, but not the Cairns and Far North Environment Centre (CAFNEC), the Gulf Local Authorities Development Association (GLADA) or the Commercial Fisherman’s Organisation (CFO). When prompted, he then remembered that there were: two landholders, the mining industry, CAFNEC, some Kowanyama people, the CFO, GLADA and some irrigators who also happened to be involved. This man did not volunteer his services to the group, but was directed to be there by a superior as a representative of his department. His allegiance is not with the community-based catchment management group, but he still purports to be a member of the group when it suits him.
other government officers feeling obviously threatened by the freedom and flexibility of the Mitchell River group, it will be some time before this officer recognises the value of government and community representatives cooperatively managing the Watershed’s resources. As other authors have noted, empowerment of the community is often equated with disempowerment of government agencies, by those government officers who feel threatened by the pace and the nature of the changes occurring (Woodhill, Wilson and McKenzie 1992; Campbell 1994).

To reiterate the principles of government involvement in local environmental management, these are resourcing, facilitating, advising and informing, consulting, and regulating. The following reviews evidence for each principle derived from the case studies.

8.2 **Resourcing**

*Get government involved if you want money, [and if you do that] then a government chappy would be checking how the money is spent — its just grandstanding by the pollies.*

(Downside Landcare group member, September 1992)

Provision of government resources toward local environmental management is vital. However, the contribution that community groups make toward their own longer term security should not be underestimated, nor discounted. As demonstrated above in Chapter 7, a lot of time, money and other resources spent by individual landholders goes unreceipted. However, it does not mean that their contribution is insignificant. Some community groups have established profitable tree nurseries and others do not rely on government for support at all. Many have applied to a diversity of funding sources so as not to be dependent upon any one department. It is important to reiterate that all community groups are self reliant to some degree. The topic of discussion here is the extent to which government resourcing is an underlying principle of local environmental management.

It is clear that government funding is essential to community groups engaged in managing their local environments. Governments made finance available for a wide
range of projects (such as the Green River Banks project of the Downside Landcare group or the Mitchell River group's Chillagoe demonstration and interpretation planning project), equipment (such as water quality monitoring technology in the case of Water Watchers) and wages for all three facilitators. Discussion of funding was raised in each case study concerning the role of government in community-based environmental management (see Chapter 6). However, debate about how much is enough, what these resources should be used for and who is accountable for expending them varies from discussion to discussion. There were also a number of issues raised about resources which were common to all three groups. The following discussion notes the different types and issues of resourcing.

8.2.1 In kind resources

The first issue concerns the type of resources provided to community groups. Many interviewees pointed out that not all of these need be financial. 'In kind' resources such as the use of office equipment or provision of tools are just as important to many groups. Few people, whether they be facilitators, community residents, landholders or government employees have comprehensively investigated the potential for use of 'in kind' resources available from many government offices. Communication equipment, cameras, VCRs, slide-projectors, and other technology — all are possible resources to an inventive community group. For example, a public meeting was held near Wagga Wagga to determine catchment plans and future action for another salt affected landcare area. It was not until the next day that a presiding governmental official said to the facilitator of the landcare group: you could have used the Departmental video equipment to record proceedings. Office space, telephone usage, secretarial assistance, all of these 'in kind' resources could be used more often by community groups. However in kind resourcing depends upon the extent to which government agencies are prepared to develop and implement policies which permit this type of extra expenditure.

8.2.2 Submissions and timing

When community groups access financial resources via the usual submission process, the timing of that process is another common factor vital to groups'
efficiency. This relates both to the lead time before groups submit their proposals, the time spent waiting to hear the result and the time spent waiting to receive funds if the submission was approved. Although the former is largely a matter for groups to decide, the timing of advertisement placement and closing dates lies within the scope of government responsibility. After funding applications have been submitted, the time spent waiting to hear a result and, if approved, waiting for the disbursal of finances is a sore point among some community groups. In the Downside Landcare group for example, one bad experience with the timing of financial assistance meant that group members were unsure whether they would be able to carry out their first group tree-planting project. Group members reported that, had funds not been forthcoming in the optimal planting period in autumn, the whole project may have been jeopardised. The same time lapse between submission and disbursal was evident in the Water Watchers case. If there had been a closer relationship between the funding agency and the community group, there would have been less confusion about the timing of monies provided. As it happened, members of Water Watchers were keen to start monitoring water quality as near to the beginning of the wet season as possible to catch ‘the slug’ of nutrients washed down creeks and drains with the first winter rains. However, without a definite answer to their submission, group members were not able to instigate monitoring plans as early as they would have preferred.

The departmental perspective on submissions and timing is quite different to that of community groups depending upon the point within the bureaucratic hierarchy at which this debate is entered. Officers at the community level have often contributed to the writing of submissions and assisted with the organisation of these projects before the money is disbursed. Many enjoy this role of community advocate and covertly take on some of the characteristics of community developer in teaching residents how to write effective submissions and coaching them about government process ‘behind the scenes’. At the other end of the scale, government officers involved in sifting through the myriad of submissions and applications have to abide by a carefully predetermined set of procedures. If community groups perceive that government bureaucracy is slow, it is often because they do not understand the scale at which these operations take place. Clear communication is thus demanded.
8.2.3 Value added accounting

There was another distinct similarity among the three groups studied concerning the way that money is handled once they were successful in securing access to financial resources and began implementing projects. Each group’s executive committee pored over the allocation and disbursal of funds at a level of detail far removed from the experience of normal government accounting systems. That is, the three groups followed the arrival and expenditure of common finances far more closely than governments appear to. In addition, I noted that community groups were able to allocate money, implement the projects and make adjustments to expenditure along the way with more alacrity than government budgetary systems. However, again it appears that difficulties of scale and misunderstandings about various civic and state responsibilities are evident. It is far easier to manage project expenses for one community by one community group than for whole government departments to manage hundreds of community projects spread across different parts of the state or nation.

I also observed that the three community groups were careful to make the amounts of money they did have go further. In another recent study of rural community groups, it was found that the ‘Sunbury Landcare group’s contributions to revegetation in their project area more than tripled the government contributions’ (Millar 1994:9). Some believe this process of seed-funding can lead to added investment in the community. ‘Government and private resources can be delivered most effectively to organised groups, thus gaining a "multiplier effect"’ (Goss and Chatfield 1991). As one officer stated, government should provide: seeding money for start up and a minimal annual financial contribution for administration. But from the community angle it is a lot more like ‘painful long division’. Trying to spread the resources as far and as wide as possible within the community was difficult for each group but led to innovative ways of extending meagre resources. The governmental submission process can be likened to a parent eking out the weekly housekeeping monies, only in the community group scenario, the keep is dolled out on an annual basis and is not always a reliable source. One Water Watchers interviewee summed up this process very aptly:
Smaller amounts of money direct to community groups are more effective value for money than government programs.

8.2.4 Economic geography

Another point to note in relation to government provision of resources to rural community groups relates to the well-established core-periphery theory of resource economics (see examples from the edited volume by Stohr and Taylor 1981). In Serpentine Jarrahdale, where the Water Watchers group were located, the active movement of financial resources from the more wealthy semi-urban area of the Shire, to the less adequately resourced southern rural areas meant that more resources were spent in less well resourced areas. With the involvement of people from the semi-urban ‘garden suburbs’ in the north of the shire, many of whom had part-time farming jobs or jobs which were not dependent upon farm income, more time (ie. voluntary labour) was available for water quality monitoring in the south. This area may not have attracted the same level of attention from the group had it been left to rural landholders who tended to have less time and money readily available for such projects. Through schools involvement and the involvement of more women in the semi-urban areas, the Community Catchment Centre provided a very valuable and largely unrecognised resourcing role which in effect reversed the core-periphery drain by sending resources in terms of time, money and people to work on environmentally sensitive and fragile rural areas.

The same point about economic geography can be made in reference to the Mitchell River group, with even greater resonance and application. Cape York, despite its high tourism appeal, is still one of the more isolated and fragmented landscapes in Australia. The Mitchell River watershed to the west of Cairns is comparatively cut off from the rest of the Cape by virtue of its lack of tourist appeal and because it is off the beaten track to the tip of the Cape. However, residents of the bottom end of the watershed at Kowanyama have succeeded in promoting themselves, not as an isolated and economically disadvantaged peripheral group dependent upon the urban core, but as a self-reliant and relatively autonomous community who are highly successful in the eyes of both the State and Federal governments. The Kowanyama community have helped prove to the rest of the catchment population that by
working together with each other and with governmental assistance, money can be redirected from Brisbane and Canberra to the whole Mitchell River Watershed and entire landscapes can be changed for the better.

8.2.5 **Resource use**

It was commonly thought that governments could and should financially support community groups — as one person said: *putting their money where their mouth is.* Other interviewees echoed this view. They said that providing financial support was the most effective means of government assistance since it could buy not only capital items, but more importantly, human resources. In other words, money spent on facilitators’ wages meant more time invested in local environments. One Mitchell River group interviewee equated government financial support with group legitimacy. The inference he was making is that without government money or facilitation, groups are not really legitimately sanctioned local organisations.

> Community groups without government backing do not progress — they make noise and often bite off too large objectives.

This man was vehemently opposed to the expenditure of public funds on projects which he believed were serving few interests and in ways which did not achieve observable results. But at the same time, he advocated the expenditure of government funds on community groups to get projects underway ‘on-the-ground’. He continued:

> I don’t believe the production of brochures has resulted in much greater education or awareness in the catchment regarding [people’s] responsibilities... The group has established a name for itself — but not done much positive for catchment users.

Another Mitchell River government representative espoused an opinion quite to the contrary. He suggested that the best way to change environmental practice was to give money direct to landholders via groups.
Local people are the best on-the-spot managers. [They] understand the seasons, understand [local] resources and infrastructure, [therefore] they should be resourced to provide an environmental management responsibility function from redirected funds from government direct to catchment managers relating to fishing, tourism, [and] environmental functions which are not currently part of economic production. Some of that money should be directed to landholders and catchment community groups so that resources go direct [to the environment] through the Catchment Coordinating Committee.

Rather than concentrate on ways in which government could financially assist community groups, the next interviewee suggested that community groups are good ways of saving money for government departments. He claimed that community groups can play a watchdog role, in return for resources from government — providing people on the ground are asking questions such as; *Did you know this was going on, did you know so and so, did you know that?* With government money getting tighter we don’t have people to run all over checking on things. In other words, he espoused the use of voluntary labor from community groups to undertake some of the work of government and allow more flexibility in departmental budgets.

The extent to which community groups are being harnessed by governments to undertake government sponsored environmental management as a way of making the departmental dollar go further was an explicit motive of one Western Australian bureaucrat. He suggested that community groups were a useful tool of government in terms of a pool of voluntary labour — as long as government was in control of the program objectives. These two examples show that some departmental officers were missing the point that governments have a legitimate mandate from the community to undertake local environmental management. Some officers did not seem to understand that there are facilitators funded by government who are especially employed to assist community groups involved in catchment management — not at the expense of government budgets but as legitimate costs to government.

These two officers in particular perceived community-based environmental groups as effective means of saving on departmental budgets by using volunteer labour.
However, although some would interpret this behaviour as scrimping — hoarding and protecting government funds while taking advantage of community support — there is a current widespread trend reflected within public administration policy which advocates the necessity of governments having to harness energy from the private and non-government sector in order to make their resources go further (Osborne and Gaebler 1992). Building on the work of Michel Foucault, one recent advocate of this view suggests that governments are not conscripting power to fulfil their own agendas, they are working with and through the constellation of interests reflected in society (Grabosky 1994). I argue that whilst it may be entirely legitimate for government agencies to work with community groups, the balance of power is not particularly even and both parties should be aware of both their own and the others' motivations for entering into ‘partnerships’ of this kind — especially in the name of public involvement.

8.3 Facilitating

We're not providing magic bullets or a mental infrastructure — we're providing ways for them to come up with their own solutions (Water Watchers government officer, March 1992).

Facilitation is essentially the art of fostering synergy among others — devolving skills, information and contacts to the people who most need them — land users (Campbell 1992a:167).

A person who facilitates generally has a short term role in helping and offering guidance when groups are ‘getting started’. This usually includes helping groups talk things through, identify local problems, set goals and priorities for group projects, and establish contacts and generally make things easier for groups to start up successfully (Rush and Associates, Part 1 1992).

I believe that the role for community development professionals described in the literature and that of the facilitators’ of the three community groups is one and the same, based on the discussion of community development in Chapter 2. Their professional practice ‘is a blend of sociotechnical interventionary strategies that assist the community [group] in achieving its goals’ (Warner 1989:117). Under the broad heading of facilitation, there is a range of more specific skills and roles
necessary for ‘good’ facilitation that was observed in each of the three case studies. It is instructive to list these and briefly summarise each:

1. Communication skills — both verbal and written skills with which to transfer information from environmental community groups to government agencies and vice versa.
2. Animating skills — involving people, motivating people, arousing a sense of enthusiasm and positive action.
3. Conflict resolution skills — effectively mediating between disputing parties and clarifying areas of difference.
4. Public relations skills — liaising with community groups and the media, setting up displays, workshops and presenting results.
5. Networking skills — linking people with others holding common interests or common problems, sharing information and liaising generally.
6. Planning skills — brainstorming alternatives, envisioning solutions, goal setting, delegating tasks, providing feedback, evaluating actions.
7. Educating skills — involving members of community groups in creating social learning environments, and
8. Organising skills — arranging meetings, choosing venues, setting up trips and field days.

Central to all these sub-themes of facilitation is the very important art of listening. Government-funded facilitators can assist community groups to:

conduct needs assessments, encourage citizen participation, facilitate decision-making, identify resources, educate others, present alternatives, analyse information, develop leaders, formulate plans, stimulate organisational efforts and assist in the implementation of solutions (Warner 1989:120).

In addition to this list, it was evident from the case studies that facilitators help groups to set goals, resolve conflict or disputes between group members, articulate local problems and priorities and promote the skills development of individual members, among a host of other duties. The mere presence of a facilitator who was
intent on listening to the Water Watchers group rather than 'advising' them in the traditional sense of the word, was seen to be a great asset for the group. The coordinator of the government funded Community Catchment Centre put it this way in a conference speech: *The farmers were right, and it was our job to listen to them, and support them* (Bradby 1992:146). Support in this context is another key variable to effective facilitation. Through providing the physical space and opportunities for discussion, many of the decisions about how to address local environmental problems were made by those most affected by these problems.

Perhaps what unites most facilitators involved in community groups and development practice is their diversity. They come from diverse backgrounds (refer to Chapter 6 for an analysis of the three facilitators' backgrounds), they undertake diverse tasks and they liaise with people across diverse sectors and territories within communities. Warner (1989) has identified two central approaches to community development practice. The first he labels the 'task-oriented approach' which has arisen largely from a history of locally-based economic or employment initiatives reliant on the production of tangible results at the end of a process (Warner 1989):

> The attention to outcomes places the community development practitioner in a role of emphasising problem identification, fact-finding, analysis of alternatives, grantsmanship and project implementation. Success is measured in terms of improvement in the institutional and physical environment (Warner 1989:118).

The second approach he labels the 'process approach' which is concerned more with the way in which the community operates as a holistic structure, unifying economic with ecological, social and cultural conditions of the local community (Warner 1989). This approach views community group members as resourceful participants in the process and relies less on facilitation as a passive avocation on behalf of a professional and defines it more as an active endeavour of the whole community. The approach taken across the three community groups is reflected in members' relationships with the facilitator in each case. It is important to reiterate here that facilitators were caught somewhere in between being a government employee and a
community member, their conflicting and shifting roles in each group are thus reflected in these relationships with the community groups. Refer to Chapter 6 for details of each facilitator’s role, funding status and position.

### 8.3.1 Facilitator — group relations

In the case of Water Watchers, the facilitator considered himself part of the group, not separate from it. Instead of a devolution of skills, information and contacts from the government to the community, there appeared to be more of a two way flow between the facilitator and the group. Information from the local land base went to the Catchment Centre and skills and technical expertise were fed back to the group. However, this led to subsequent difficulties when the facilitator left the group to take up another position. Although during the interview he described himself as a group member rather than a government employee, it was obvious that he was not a member of the group to the same extent as other group members. He did not live locally, the community did not identify with him, and he was paid by the government to belong. It is important to this argument to note that I am not making any value judgements on the behaviour of the individual involved, however the issue of participation is an integral one to facilitator — group relations.

The Water Watchers facilitator developed strong ties with individuals in the group and was particularly careful to maintain those relationships even at the expense of his other duties. However, after he left the group, it became apparent that even though he had developed and strengthened lines of communication between himself and individual group members, he had not paid attention to the type of relations existing among members. As a metaphor for his actions, he had created a wheel of communication with a number of spokes to his hub, rather than a network or web of inter-connections. When he left, Water Watchers group members were not able to rebuild group cohesion because they did not have a well-developed sense of self-reliance, trust and communication. Instead of having a self-image independent from government like the other two groups, Water Watchers became dependent upon government facilitation. Two aspects of what this facilitator said during the interview support this contention. Firstly, he did not have a grounding in the fields of sociology, education or planning which comprise the majority of community
development professionals (Warner 1989). Coming from a technical/agricultural background, this type of community action was a new experience. As he said:

*With* the realisation that the technical focus needed to be balanced by promotional flows... *I* developed the ideal of local ownership and responsibility at the CCC. *It was* the first time *I'd* used this philosophy. However, despite the obvious enthusiasm and enjoyment this person gained from his job, he lamented the fact that:

*I would have liked to reduce my involvement at the technical end. I would have preferred people to do their own calculations and maybe 30% did do that. But there was a large amount of information to collate — 30 sites and 30 people [through] a central information agency. At the expense of getting information out, overall I would have liked to decrease [my technical involvement] — been realistic about the amount of time it will take — [and encouraged] more local people to be involved.*

Indeed, had he been able to pay greater attention to his own intuition, rather than having to be the technical expert, it is possible that the group would have developed a greater sense of self-reliance. As the community development theorists state: 'The more community issues and problems become translated into technical questions, the more they discourage self-help and broad participation... Because community problems often become technical problems, community leaders and officials find it easier and more ‘efficient’ to make decisions and take actions without much community input (Littrell and Hobbs 1989:56).

With the current trend in agricultural extension changing from a one to one linear model, to a group approach, it was little wonder that he thought a facilitator’s role was: *acting as an entrepreneur, between people locally.* Three years ‘down the track’ the group have had two different government facilitators, both of whom have left, and group cohesion is non-existent. This style of facilitation was not effective in bringing the group together, because it covertly encouraged dependency upon government-based support. With increasing emphasis on devolution of responsibility and resources to community groups engaged in environmental management, not only is this practice ethically debatable, it is also ‘pragmatically questionable’ (Garkovich
1989:215). To reiterate — it was not the person which caused the problem — more a combination of factors which included, the nature of water quality monitoring being task-oriented, the facilitator's appointment by government, the group's own requirements and expectations, and some inexperience in the practice of group facilitation. Importantly, these same factors contributed to success in the form of a monitoring program which was put in place quickly and which provided the necessary data 'at the end of the day'. It should also be noted that the type of group dependence upon the Water Watchers facilitator was also apparent in the Downside Landcare group, although not to the same degree.

In the case of Downside, the style of facilitation was less technical and administrative and more 'holistic' and grounded in the needs of the community. A facilitator was appointed by the group after it had already been going for one year. The person assisted group members to talk things through, identify local problems, organise committee meetings, involve other members and link up with external sources of advice and information, among a range of other tasks. She operated more as just another node in the network, than a hub through which information flowed in and out. On the basis of this case study, I believe there is an difference between facilitators who are local and come 'bubbling up' through the community, and those who are not local and who are appointed into the community with little or no local knowledge. Although there is a difference between those facilitators appointed from outside the community and those who are selected from within it, I am not suggesting that either method is better than the other. Examination of the appointment of the Mitchell River group's facilitator serves as a reminder of the limitations of such gross generalisations. In that case, an outside appointee was most appropriate, in the Downside Landcare case, an inside appointee was the best choice. It depends entirely upon local conditions and no general rule of thumb is likely to assist in this regard.

Referring to the discussion at the beginning of this section, often facilitation is something done for community groups by government paid facilitators to ease their administrative workload and to improve group dynamics. However, with the Mitchell River group there was a case for arguing that the facilitator was an active
participant in developing conflict resolution and mediation roles among and between different state departments and local government. On top of the usual facilitation duties, the Mitchell River group facilitator (a recent graduate from outside the community) undertook a wide range of other functions including, writing brief reports, taking minutes, operating a budget, writing media releases, giving radio interviews, involving the wider community in decision-making, maintaining a vehicle and driving long distances across the catchment, which often entailed being away from his young family. As one interviewee from the group eloquently put it, the facilitator's job was being the legs and the wheels of the group. As well as providing a considerable boost to the group, the Mitchell River group facilitator obviously enjoys his position:

*I personally have a sense of doing something good — and hopefully [am] fulfilling a role that the community wants filled. I'm certainly feeling a personal challenge. I get quite excited when I think of the broader concept of what is going on and having these issues and concerns being addressed at the community level and playing a front line role in the development of things like ESD [ecologically sustainable development]. [I have a] sense of worth in what I'm doing.*

Wherever they have come from, a common characteristic of all three community group facilitators was that they made life easier for the groups. Recognising this central theme of facilitation, the Western Australian Department of Agriculture established a special in-service training session on facilitation skills for Agricultural Extension Officers. A recent study in New South Wales backs up the need for such training programs:

*agency personnel lacked group communication/facilitation skills. Some agency officers thought the traditional methods of extension and technology transfer should be persevered with, even though resources were declining and land degradation was still increasing across the State (Soil Conservation Service 1990 cited in Siepen, Marston and Woodhill 1992:247).*
Certainly there is a need for facilitation of group dynamics, of information flow, of administrative arrangements as well as the traditional technical extension role. I maintain that in every facilitator’s position, all of these functions are required. However, the extent to which any one approach is taken should depend upon the skill base and context of the community group — rather than upon the facilitator’s preferred or comfortable style. That raises yet another issue of the facilitator’s style and whether he or she has sufficient personal and governmental resources to be a flexible facilitator versus a navigator or dominator.

8.3.2 Facilitation — navigation or domination

As stated above, in each of the three community groups, the facilitator’s role emphasised two key functions — facilitating communication and providing administrative support for community groups. Facilitation is usually based on a philosophy of providing assistance upon request from the group, and is not directive in nature. This is a well documented feature of community development. In adopting the process model of change, powerful or coercive methods in seeking community development are frowned upon severely. As illustrated above, the process approach to community development emphasises: ‘sociopsychological skills that assist and enable community residents to function successfully on their own behalf’ (Warner 1989:119). However, while I was on fieldwork in Downside, it seemed that government departments were becoming so blinkered by the policy of not leading or directing groups, that some officers were no longer able or willing to provide even the most basic assistance, for fear of dominating the group, or perhaps because they were already overcommitted. This was especially evident where government officers took on community landcare roles after hours. It seemed that there was a fine line between ‘running the show’ and taking on responsibility for decision-making and leadership where it was deemed appropriate and acceptable. On the basis of the evidence from the facilitators experience in the community groups under analysis, I concluded that it is often as important for facilitators to put in after hours work with community groups when they know they have the capacity to assist, as it is for them to sit back and let the group make their own mistakes — as long as the facilitator is not ‘burning-out’ in the process.
Some government officers in the Mitchell River group appeared to be somewhat patronising in their attitudes toward the process model of community development and community members of the group. For example, one interviewee told me that it was appropriate to facilitate people to be more comfortable with groups — management consultants are good at that. Another person suggested that the role of government was to suggest which people or groups to get involved [in the community group] and provide leadership in the early days. Simultaneously decrying community initiated catchment management on the one hand and attributing the group's positive results to government interference on the other hand, the following comment illustrates how far some government departments have to go before embracing community-based catchment management derived from the principle of self-determination.

_They [Mitchell River group members] had a tough time of it [to start with], trying to set themselves up while government agencies [were] kept out of it [and there were] internal conflicts. Now the group has made some progress over [the last] 12–18 months. They were missing the boat on a few things — it wasn't until we got involved and said 'you can't take on so many issues — you've got to narrow it down'. Then they became focussed._

However, the same quote could be interpreted not as patronising, but as supportive of the group, offering guidance and advice. While I gathered that there had been a lot of mistrust between officers of some government agencies and community representatives concerning the freedom of the Mitchell River group in the beginning, during my fieldwork period there were signs that relationships built on trust and collaboration were developing among group members — on behalf of both government officers and community representatives. One government representative went as far as to suggest that the mere existence of the Mitchell River group has made his job easier and has provided some great opportunities for interaction and liaison — it saves me a lot of stuffing around and gets people talking [about the difficult issues]. But, as another example of the confusion experienced by some traditional extension officers, one Mitchell River group government officer suggested in the same breath that government officers: shouldn't lead them [group members]
in the early days, but they might need leadership to get the group started. Was he suggesting that community groups need a facilitator to help determine their own goals and priorities (navigation), or was he inferring that groups cannot do anything without governmental assistance (domination)? Again, there has to be a lot of sensitivity and tact in the way that community groups are facilitated. At times, groups may need a lot of government intervention, at others, it is the government officers who need support and assistance from the community. There is no clear cut or simple technique for ascertaining what facilitation technique is appropriate from group to group, or in different situations within any one group.

8.3.3 Facilitation, organisational culture and inter-governmental relations

Another common theme raised by government interviewees was how other government departments, (or sometimes different branches of the one department) were getting it wrong. Inter-departmental conflict was rife in each of the community groups. It was not simply the age-old arguments between different tiers of government that were especially noticeable (although this existed too), it was ingrained and embittered conflicts between different state government departments. Facilitators' management of inter-governmental relations required a certain diplomacy — a job made even harder by a dual alliance to the group on the one hand and to the department funding the position on the other hand. Several of the comments made about inter-governmental relations illuminate this type of conflict.

One government interviewee in the Mitchell River group was surprised by the facilitator: [he was] operating cooperatively with other government people there — not confronting [them] in front of the group. This begs the question 'how much confrontation went on between government departments behind closed doors'? The facilitator's role in all this is crucial. In conjunction with the community group, he or she can respond to competitive and conflicting inter-departmental roles, or enable government agencies to work together for mutual advantage. In terms of positive group outcomes, another Mitchell River government interviewee said that there was: a coordination of effort across departments and relationships building up which weren't there before.
A final piece of advice proffered by yet a third Mitchell River group interviewee on the subject of facilitation and government departments points to the difference between community-based stewardship or advocacy groups compared to government sponsored and established community catchment committees:

*Look at whether a community group is really what you want. If you're trying to put pressure on other government departments, don't create a community group [to do this].*

The extent to which community groups are pawns caught in the cross-fire between departments has never been ascertained in the Australian environmental arena. However, this interviewee's comment certainly points toward the problem of governmental cooption of groups, either in their establishment phase, or before that, when they are just beginning. When groups have a close working relationship with government agencies, the risk of cooption and loss of autonomy is real (Gardner 1991b). Writing in the field of public involvement, Langton (1982) warns that stewardship groups are especially prone to cooption for three reasons:

First, increased financial dependence on government can temper the prophetic passion of a voluntary organisation for fear of biting the hand that feeds them. Second, the style and objectives of an organisation can be modified excessively to serve the government's agenda. Third, the growing presence of voluntary association leaders in the governmental sector may subtly influence leaders of voluntary associations to be more cooperative with governmental agencies than they might otherwise be because of the lure of potential government service (Langton 1982:9).

This theme of cooption is raised again in Chapter 9. Departmental culture also has a large influence upon the way in which the facilitator perceives his/her job and upon their facilitation practice (Warner 1989). The physical context in which the facilitator is based affects that person in terms of the corporate goals of the department, the office surroundings, the job opportunities available, the public service perks and philosophy of the department. There is no doubt that the organisational culture and typical hierarchy of government departments influences the quality of facilitation: 'Differing levels of responsibility and status are thus
conferred by the organisation. This status level, in turn, carries over into the community in the form of titles, prestige and so forth' (Warner 1989:127). If the facilitator misuses this power and prestige within rural communities, there would be little opportunity for self-determination in local environmental management. However, in each of the community groups of this study, the facilitator was not coercive but animating, not powerful but motivating, and not overly concerned with increased personal prestige.

8.3.1 Administration

By law to get funding, we have to be an incorporated body and abide by the guidelines of the silly bureaucrats. A lot of paperwork is a waste of trees — it was quite difficult at first, this form, that slip, 3rd party premiums, now you need an up-to-date form and its a very difficult process (Downside Landcare group member, September 1992).

Community groups and government representatives alike believed that a central role of a facilitator is the shouldering of administrative loads. This was seen to ease the burden of bureaucratic administration from individuals with little or perhaps no previous experience in dealing with paperwork. The coordinator of the Community Catchment Centre in Western Australia, labelled this function ‘bureaucracy busting’. Of fundamental importance to this task is: finding the appropriate forms; knowing how to fill them in and who to send them to; getting to the right person for advice and information within an organisation, and undertaking routine administrative functions (e.g. filing, meeting with auditors and talking to the right person/people ‘further up the chain of command’). In this specific instance, incorporation is necessary for community groups so that individual members are protected against litigation. Although members perceive this as just another example of government red tape, it is appropriate in many instances for insurance and regulatory purposes.

In terms of the administrative function they provide, facilitators interpreted government guidelines, liaised with government departments and assisted with the provision of technical information and specialist knowledge in a way which suited community groups. When talking about the calibre of facilitation in terms of
administrative assistance provided locally by state government officers, one enthusiastic member of the Water Watchers group claimed that:

*The Community Catchment Centre is the greatest invention since sliced bread!*

Most interaction between members of Water Watchers and government departments was through the Community Catchment Centre (ie. at the local level). The primary mode of interaction was verbal, via the telephone and in person so as to involve group members. A comment running throughout interviews with members of the Water Watchers group was the accessibility of the Community Catchment Centre. According to the coordinator of the Centre, it is simply due to the readiness of the government officers at the Catchment Centre to listen to local landholders and help them 'fight their own battles' using the facilities and administrative support provided.

Another factor operating in favour of the Community Catchment Centre was the responsiveness of officers working there. One Water Watchers group member noted with surprise and pleasure that: *never once have we been knocked back by them.* Other members also spoke of the alacrity of response from the CCC: *if they say they're going to get back to you, they do,* was a common assertion made by group members. The break down of institutionalised structures and brick walls between departments was another point in favour of the Catchment Centre. It was perceived by community members as a 'one stop shop' allowing a closer relationship to develop between the Catchment Centre, the Shire Council and state government services provided locally. The Centre also offered the capacity to house officers from several different government departments under the one roof, thereby enhancing opportunities for cooperation between agencies.

However, this administrative function is not an exclusive feature of the Water Watchers group. It was quite apparent in both the other community groups studied. There were similar comments made about the indispensability of the facilitator's role in both the other cases and there were also some similar problems mentioned. For
example, difficulties in getting through to people by telephone, the remoteness of government employees working in cities often far removed from local places and obtaining local information were mentioned in interviews from all three groups as common failings of traditional rural bureaucracies. Accessible, local and appropriate forms of information and advice constitute another of the central principles of government involvement in local environmental management.

8.4 Advising, training and disseminating information

Some [government officers] are poor speakers — we want them to be able to tell us what to do in a practical way, and cheaply, but appropriately for the individual. Some government fellow told a woman [I know] all the expensive ways of fixing her property (Downside Landcare group member, September 1992).

In this post-industrial era, exchange of information can be as valuable a currency as cash. This is especially true at the community level where groups rely on government agencies and facilitators to provide technical expertise and professional advice. Government extension officers and District Agronomists are still one of a rural community’s best resources when it comes to accessing technical information. Nowadays though, there is more emphasis placed on community groups access to those officers for specialist information and advice than there is on wholesale distribution of ‘agricultural facts’ at field days and via technical memos and reports. This is quite different from the traditional role of extension scientists and Departmental officers in the community. Much research has been done recently in the fields of rural development and agriculture on the role of agricultural extension officers as educators, informers, advisers, and supporters (Bawden 1991b; Campbell 1992b; Scoones and Thompson 1992). This research extends and clarifies traditional approaches to agricultural extension services. Building on the experience of the US Department of Agriculture’s Cooperative Extension Service, Garkovich (1989) recognises that rural communities’ information requirements are changing rapidly. She claims that in order to make sensible decisions based on local assessment, communities need both information and knowledge:
Information is specific facts and ideas, bits and pieces of data that serve as building blocks for knowledge. Knowledge is the organisation of facts and ideas within a logical structure that links these isolated facts within a broader context. Knowledge, then, is information made useful in content and form to the needs or interests of a client (Garkovich 1985:262 cited in Garkovich 1989:212).

Phrased differently, 'data is not information; information is not knowledge; knowledge is not wisdom; and wisdom is not omniscient' (Nix, CRES, pers. comm., 1992). Members of the community groups in this study often complained of information overload. However, although groups may be getting a lot of information, they may not be receiving the information they need in a form in which it can be usefully employed to make decisions (Garkovich 1989). Traditional technical assistance and specialist knowledge has been provided to groups from outside the community by government agencies, universities, private consultants, public education campaigns and others in a way which has historically discouraged individuals and groups from developing a local system which meets their own needs (Garkovich 1989). In the case studies, many participants commented on the provision of agricultural advice and information:

There has been misinformation given to the community — too many decisions have been made inconsistently as to what causes problems and what doesn’t (Water Watchers, government officer, March 1992).

8.4.1 Case studies revisited

In the case of Water Watchers, much of the (unrequested) information regarding advice on nutrient enrichment provided to the Serpentine Jarrahdale community by government departments was not taken very seriously owing to the poor history of government–community relations. Conversely, the Community Catchment Centre, who were well respected by the community, were seen not only as an accessible source of technical advice, but a place where land holders and other community members could exchange local knowledge and discuss common problems. The Catchment Centre were also regarded as a source of new perspectives on farming systems and eventually earned such a good reputation that landholders would seek
advice from the Catchment Centre first instead of relying exclusively on traditional agricultural extension services for assistance.

When members of the Water Watchers group requested information in the form of local environmental data on water quality from government agencies and departments outside their community, they often felt discouraged. The Water Authority of Western Australia was especially unhelpful in the early stages of the group when members were trying to compile local water quality data based on disaggregates of centrally held information. This finding accords with a Canadian study where satisfaction levels with information provision were highest for local and regional government agencies and diminished in inverse proportion to the level of government. The higher the level of government, the worse the experience for local environmental groups accessing information (Gardner 1991a). Again, not to make excuses for state and federal government processes, but this is a typical problem arising from incompatibilities of scale. In order to get information from a state or federal government department by telephone, it is quite common to go through three or four different sections before being finally connected to someone who is able to help. On a local or regional level, information collection and distribution is faster, cheaper and more efficient — because there is less of it.

As mentioned earlier in Chapter 6, the role of information broker was another essential government contribution to community groups via facilitators. But it was seen as more than just an economically effective way to get information out to the rural sector at large. Agricultural extension sessions by way of field days, farm planning workshops or demonstration sites sponsored by landcare groups, such as the ones organised by the Downside Landcare group, are central to the ‘farmer first’ philosophy espoused by the participatory rural development school (Pretty and Chambers 1992; Scoones and Thompson 1992). This position is elegantly summarised by Campbell and Junor:

The evolution of landcare groups towards autonomy and self-reliance could be the basis for a move towards research, development, and advisory systems which are ‘bottom-up’, ‘land user-driven’, ‘farmer first’, rather than systems based
on a communication model which assumes that most information flows in a linear, one way path from researcher, to extension agency, to progressive farmers, to the rest (Campbell and Junor 1992:16).

However, while there are important changes being made in the way agricultural extension science operates, there should not be an automatic assumption that this information is accessible to everyone because community groups are taking charge of their own extension requirements. In Downside, the group facilitator would invite guest speakers and government specialists to general meetings and workshops from time to time. But, just because the professional was coming to the community, rather than the other way around, did not mean that the information espoused by that professional would be understood by everyone. Several Downside Landcare group members commented about experts who spoke in ways that did not permit widespread comprehension.

*Sometimes they talk a bit above you — I'd love to have been up the front and seen the blank faces. I don't think he could talk in more general terms.*

Some governmental representatives seemed acutely aware of this barrier to effective extension but appeared unable to resolve it. As mentioned earlier, all government interviewees perceived the necessity of allowing the community group to initiate activities. However, in their whole hearted attempts not to indoctrinate the community with 'outside' opinions and advice, some governmental extension officers failed to inform or advise community groups at all. Landcare group members seemed particularly aware of the removal of extension services from a ratio of one to one advice, to a situation in which the 'expert' talks to a group of individuals. However, in some cases, the relationship of extension officer to the landcare group became almost one of educator-expert, which in Downside served only to increase the divide between specialist agricultural knowledge and landholder practice.

While the setting for extension may have changed from a desk in town to a farm in the catchment, and from a one to one situation to a group setting, old habits of exclusionary language die hard among some extension officers. This is not so much
a comment about the nature of the ‘old guard’, as it is about the need for more education and communication skills throughout rural institutions. This is certainly true for some agricultural extension officers who became the ‘meat-in-the-sandwich’ caught between old departmental culture and new expectations that they will suddenly engage in more participatory extension practice (Wilson 1993).

Another important observation about agricultural extension in Downside was a shift away from the model of ‘my cup of knowledge is full since I am an expert and your cup is empty, since you are the farmer, so if I tell you what I know then your cup will be full too’. A new paradigm of extension science recognised the existing or indigenous local knowledge of landholders who were able to share information and knowledge both among themselves and with government agencies. This is quite different to the former model in that:

a) it presupposes that landholders’ cups of knowledge are not empty to begin with, there is a recognition of the importance of local ways of knowing (Cornwall, Gujit and Welbourn 1992);
b) it recognises the importance of farmers sharing knowledge among themselves and not simply relying on one expert for direction and assistance, and  
c) it opens up important new avenues for local and traditional environmental knowledge to be taught by landholders and community residents to government officers and agencies.

Perhaps one of the most important roles for the Community Catchment Centre in the Water Watchers case was as a legitimate collection point for indigenous technical knowledge, ie. local history. Having established a ‘warm and friendly centre... a red brick house...[with] a distinctly non-departmental air about it’ (Bradby 1992:144), the Catchment Centre was not seen as simply a ‘point source’ of government technical information, but also a place which respected Water Watchers’ monitoring efforts. Rather than reject this information as ‘non-scientific’ the Catchment Centre built their own monitoring profile in collaboration with the Water Watchers group such that both sets of data were complementary. This increasing recognition of the value of rural people’s knowledge has enabled members of
environmental community groups such as Water Watchers to feel more comfortable in experimenting with local environmental management issues.

During interviews with government officials in the Mitchell River group, I noted differences in perception between informing and advising community groups. Although some government interviewees believed that it was their role to give information to the group, most added that this was appropriate only when such advice was requested by the group. Other extension services included providing advice on governmental policy or giving technical advice. One interviewee felt that the information service he was providing was from the community to politicians, not the other way around via the bureaucracy. That there was not enough information or research conducted in the Mitchell River Watershed was a frequently heard lament in interviews with government representatives. One such interviewee concluded that the Mitchell River group was in need of specialist research on water quality; environmental river flows; rubbervine rust and baseline statistics for the catchment. However, many government interviewees also mentioned that members of community groups are responsible for coming up with some of their own solutions to questions in the too hard basket.

8.4.2 Environmental education

Water Watchers group members believed they had gained personal insights about water as a unifying feature of local catchments and that they understood the harmful effects of nutrient enrichment on the environment. This degree of ‘land literacy’ (White 1992) arose through the efforts of government officers, and members of Water Watchers working alongside each other when taking water quality samples. However, there is not much evidence of this type of adult education operating in conjunction with government departments. On the other hand, evidence from both the Water Watchers and Downside Landcare groups underscore the importance of children’s involvement in environmental management. One of the children who participated in the Water Watchers group said: *I thought it would be boring at first, but it wasn’t.* Another said: *we collected the water and Mr XX sent it to the laboratory and had it tested. Before, we had the second highest reading — orange, now we have the second lowest — green,* (red, orange, green and blue are the
colours which indicate the amount of phosphorus in the water). The proximity of the Catchment Centre to schools in the area allowed officers to talk to classes about the results of their catchment monitoring. The philosophical framework in which the Centre operated allowed members of Water Watchers to learn and exchange information — in their own environment and at their own pace. The environmental education ethic spawned by the Centre and conveyed by members of Water Watchers was clearly illustrated by one interviewee who said: *we planted conservation seeds in the mind and that’s better than trees in the paddock.*

### 8.4.3 State of play

In summary, with the advent of a new educative era which embraces the workshop, butchers’ paper and team-building exercises, there is less reliance on ‘expert systems’ for all the answers. The principle underlying these practices is important. Governments don’t always know best and therefore shouldn’t espouse their policies and approaches without consulting local opinion and engaging in participatory practice. What is necessary are information strategies which build on existing skills and local knowledge in the community. These strategies could encourage information partnerships between those inside and those outside the community group in an attempt to:

- find out the information requirements and skill base of the community group; and
- see if these can be met locally (Garkovich 1989).

Community groups need to know which educational strategies are effective with respect to local environmental management conditions. More case study examples explaining the who, what, where and how of environmental care are necessary, much like those materials produced by the Land Use Study Centre at the University of Southern Queensland, or the landcare manuals produced by the University of Queensland in conjunction with the Queensland Department of Primary Industries — as long as they can be appropriated by community groups to suit local needs. If government departments and outside experts continue to act as if they know the realities of life on the land better than local landholders, mistakes based on a lack of
attention to rural people’s knowledge will continue to happen. In the Mitchell River group, one interviewee became especially angry at the thought that he had been duped into believing extension scientists and agricultural management consultants for many years. A sugar cane and tobacco grower, his outburst at the specialist’s concession to lack of pure knowledge on his farm was an important revelation:

*When I was younger — I always thought that these people in government departments could take care of it [the environment], but now I’m seeing that sometimes they get off the track ... We thought they would have had things more under control than that. I’m starting to realise that they’re not much smarter than us — even with training, they still make mistakes.*

Society can no longer solely and unquestioningly rely on extension strategies which are premised on positivist science and rationality, especially when attempting to redress environmental, economic and social pathologies in rural communities. Nor can governments afford to dispense with local knowledge and not listen to public opinion. But, along with the realisation that governments do not always know best, comes a public suspicion that communities are not just being asked for their ideas, but they are then having to pay to have those ideas implemented. Although there is some comfort in the acknowledgment that many governments are really listening to community opinion and learning from local people, there is a renewed sense of discomfort for local citizens about to become involved in community groups. As one interviewee said: *when they [government] invite you to have a say, it means they want you to pay!* As illustrated in these case study groups, consultation, participatory practice and democratic systems of representation were important features of government involvement in local environmental management toward increasing the effectiveness of advice and information systems.

### 8.5 Consultation and participatory democracy

*Governments should not pre-empt or ignore what community groups want. [They should conduct] public participation and consultation processes. Governments should facilitate community groups views... Governments should listen to community groups, and be told to listen! Governments should*
not influence or tell community groups what to do. Governments should justify their decisions to groups (Mitchell River government officer, August 1993).

8.5.1 Consultation

Not all government representatives felt the same way as the above local government planner, who was well versed in the theory of consultation and participation processes. Most recognised that community groups have a legitimate role to play in: i) harnessing public opinion and channelling ideas to relevant government departments, and ii) acting as information broker from government departments to local residents. But on the whole, very few government officers interviewed were concerned about the important practice of how, when and where to involve the public in consultation exercises. During one interview with an officer from the Mitchell River group, it seemed that he felt quite threatened by community groups who offer opinions and advice to government: the trouble is the community is very divided, [there are] too many voices [and it] leads to great expense and no outcomes... [there should be] no money from government where groups are acting as a consultation voice. Rather than engaging in consultation, this officer believed that it was up to governments to set the agenda and have departments carry out their duties with the minimum of attention to local preferences. During the course of the interview, it transpired that as an officer responsible for upholding government policy regarding land clearing and development initiatives during work hours, he felt overly compromised as an out-of-hours member of a local fishing group. They were attempting to halt development of foreshores affecting mangroves and estuaries on ecological grounds. Because he could not be seen to be wearing two hats, he had to resign from the community group on the grounds that he had a job to do and anyway, he said: groups get in the way of development proposals — they’re spoilers [and it leads to] time-wasting for governments... [because they] bring undue pressure on developments without full knowledge or technical expertise.

Coming from the old school of ‘I’m from the government and I’m here to help you’, this officer could not perceive group members as anything but passive recipients of government benefaction. He could not approve of dissension or diversity among the
voices in the ranks because, after all, he was the one imbued with legitimate
government power to solve environmental problems. His view was that politicians
develop government policy and his role was to implement that locally, with the
minimum of fuss in order to get the job done. In effect, he is right, even if others
may disagree with the process of the interpretation of policy in practice.

The features of public participation reviewed in Chapter 2, may be good in theory,
but in practice they pose difficulties. In a complex and turbulent planning context,
with multi-party conflicts based on different values, ideologies and attitudes, various
levels of expertise and different environmental settings, such principles of good
consultative practice have to be melded very carefully to suit local needs and
conditions — not the other way around (Syme and Eaton 1989; Syme 1992). These
authors also call for new public participation methods tailored to suit local
opportunities for negotiation, discussion, argumentation and mediation between
government professionals and community groups, or ‘the elaboration of a mutually
beneficial dialectic between top-down structural developments and bottom-up local
uniqueness’ (Albrechts 1991:135). Formula-based methods of involving the public
in governmental decision-making do not work. This begs the question of what kinds
of democratic ideals exist in community groups which enable and empower local
residents to have a say.

8.5.2 Participatory democracy

Government support of the principle of participatory practice can be under-
emphasised. Consider the case of the Serpentine Jarrahdale Land Conservation
District Committee (LCDC) who were the administrative body through which
government funds were channelled for Water Watchers operations. The state
government endorses public participation through the Decade of Landcare — Interim
Plan for Western Australia which states that:

Land Conservation District Committees …comprise mostly
local people associated with land use in the district. The [Soil
Conservation] Act requires a minimum representation from
local government and relevant producer organisations. A
Nominee of the Commissioner of Soil Conservation, normally
a locally-based Department of Agriculture adviser is also a member (Department of Agriculture 1991:56).

However, while LCDCs may encourage local participation on paper, the Serpentine Jarrahdale LCDC were, from the little I observed during my visit, anything but participatory in practice. Whilst in the area on fieldwork, I attended one meeting of the Serpentine Jarrahdale Land Conservation District Committee. The atmosphere in the meeting was considerably different to that of Water Watchers’ meetings. It was more formal and generated feelings of disinterest or apathy among Committee members who were obviously bored at times. Comprised of 2 women (one of whom was the secretary) and 14 men, the meeting was run according to Roberts Rules of Order, with statements typically preceded by ‘through you Mr Chairman’. Four members of the LCDC were also members of Water Watchers. However, unlike Water Watchers’ meetings, the LCDC meeting invited government membership as technical advisers rather than facilitators. Notably, neither of the State government’s technical representatives said anything during the meeting. Another noticeable feature of the LCDC meeting was the preoccupation with power relations in the group. This was adequately illustrated by a quote from the LCDC chairman who was also a member of the Water Watchers group:

Now I feel that I’m the boss of the whole thing...but what I’ve got to be very careful about is that we don’t get lost in the people thing. It has to be [through the] Land Conservation District Committee all the time not a Community Catchment Centre thing (Water Watchers member, March 1992).

The central point here is that the Land Conservation District Committee, although another environmental community group, does not reflect the same easy going group style evidenced in Water Watchers and therefore is not a ‘community group’ in the same sense as the three case studies. Whilst the LCDC was not the subject of this study, their group process was obviously quite different. Power relations were more traditionally hierarchical than flat, probably as a result of the interpretation of the group’s administrative function officially bestowed by the Commissioner of Soils in Western Australia. The Decade of Landcare document makes this funding role quite
explicit: 'Increasingly, various grant schemes and incentives are tied to LCDC endorsement, in the knowledge that they have legal indemnity and are experienced in handling finances' (Department of Agriculture 1991). It would seem that although they may be qualified as accountants and administrators of funding schemes, they are not real advocates of community-based environmental management and were more likely to be there for political reasons than pragmatic ones. However, on another level, given the formal administrative functions of the LCDC, it may not be entirely fair to expect them to behave any differently. Their formal style is quite fitting in the sense that they are the ones imbued with official powers to fulfil the administrative tasks set out by the state government.

Juxtaposed with Water Watchers' experience of the Land Conservation District Committee, Mitchell River Watershed group members had similarly political motivations for involvement, but operated quite differently. Members of this group were simultaneously the workers and the administrators, responsible for submissions, expenditure and projects. In this sense they were unlike members of Water Watchers who maintained a purely stewardship function and operated under the administrative protection of the LCDC. For the Mitchell River group there was no such artificial distinction of roles. However, like the Land Conservation District Committee, members of the Mitchell River group possessed similar motivations for participating in the group; for political prestige, and to make sure that the diverse industry sectors and geographic regions of the catchment had a say. To concentrate on the Mitchell River group briefly, it is important to understand the role of their representational membership system in terms of the way in which group members acted to increase the likelihood of conflict within the group.

Representation, when broken into its composite syntax, means presenting again or representing (Rosenau 1992). One of the more common interpretations is representation as delegation; one member represents an amalgamation of views, attitudes, beliefs and ideologies of others. For example in the Mitchell River Watershed group, two government officers represented the Department of Environment and Heritage, two others represented the Department of Primary Industries — Agriculture and Fisheries Branch, Water Resources Branch, and so on.
Sectoral interests were broken down into rational categorisations — graziers, miners, Aborigines, fishers, etc. But what happened to the interests of those future residents of the catchment who have no voice or those who are less capable of representing themselves? How could the next generation be represented? Surely they have a stake in the future environmental management of the catchment. Who represents the interests of the Mitchell River Watershed in international livestock corporations and transnational companies where decisions are made which ultimately affect the lives of those living in the region? With respect to the former role, one of the key objectives of the Mitchell River group is to care for the future inhabitants of the catchment by their attention to inter-generational equity. However, I am unaware of anyone who fulfils the latter role. In the focus group, Aboriginal members of the Mitchell River group, (who traditionally have a consensual style of decision-making opposed to a representative one) were very much more attached to this principle than non-Aborigines.

It seems that representational systems of democracy, without the commitment to community-based planning ideals (as opposed to the Mitchell River group), have limitations in the contexts considered here. Committee systems of decision-making set up by governments to represent all the views on environment and development within a specific catchment are often well conceived on paper, but lack a sense of community and territoriality without which they also lack the conviction necessary to fulfil long term goals. Firstly, they do not represent all those whose interests are already known or even those whose interests are still unstated, since they may represent industry sectors and geographical localities, but do not often represent the whole community. Elderly people, children, ethnic minorities, Aborigines and women are among those whose perspectives are often missed out. There is often an argument of efficiency built into this. Decision-making based upon ‘true representation’ would ultimately involve a consensus of everyone living within a specific catchment and would be notoriously slow. In the Mitchell River group, the representation of women is minimal. Although the group has taken some difficult steps toward integrating the diversity of views in the catchment, and are very committed to bottom-up environmental management, there is still progress to be made toward becoming truly democratic.
Secondly, in representative systems of democracy, representing other people's issues is not effective since these issues and experiences cannot be 'objectively' recapitulated by someone else 'as they really are', independent of the experiences, beliefs, assumptions and attitudes of both represented and representer (Rosenau 1992).

Thirdly, representational membership systems breed conflict within groups since 'the role of the representer today is to set forth the demands of their constituency' (Rosenau 1992:102). In taking on the position and demands of an entire organisation, members defend both their organisation and its interests thereby further diminishing the opportunity to calmly investigate all the issues and create alternative options. In the case of the Mitchell River group, there were several occasions early in the establishment phase of the group where conflict between members taking adversarial positions threatened to disunite the group. However, with the commitment of other members to keep talking and stay in the debates, this type of conflict served to reinforce group bonds. For as long as individual members represented their own organisation it was apparent that they were not engaging in the issues and interests of other members. While representing someone else, members did not engage in debate and discussion from their own personal perspective, which ultimately damaged the potential to move toward a more 'communicative catchment'.

As noted in Chapter 5, conflict in these situations escalated as it led to more entrenched positions and less ability to step outside a represented position to investigate common solutions to problems. For example, in the Mitchell River group, one of the representatives from the Department of Environment and Heritage has responsibility for fire management. That department has a history of policies which conflict with or contradict traditional ecological practices of many Aboriginal
communities (Parry and Clark 1991). Before coming to the group, the Departmental representative envisaged a conflict with the Kowanyama Aboriginal community about fire regimes — her position on the matter was already predetermined. However, through open discussion and exchange, often in informal settings, that potential conflict has not erupted yet.

The difference between these representative systems of catchment management and participative democratic systems is a topic far beyond the scope of this paper. However, it seems inevitable from this discussion that the Mitchell River group must encompass a bit of both approaches. In attempting to make the changeover from representative systems (like other Queensland Integrated Catchment Management Committees) to ones which enable all those interested in environmental management at community level to become involved, the Mitchell River Watershed group is breaking new ground in continuing to act with integrity and conviction toward the ideals of bottom-up planning. For representative systems of catchment management based on reason and rationality, there is an automatic tension built in between governmental experts bent on efficiency and the ideal participatory democracy. I believe the Mitchell River group is moving away from representational systems of catchment management to one in which:

an awareness of diversity, the politics of difference, the fundamental claim of otherness, all point to a politics based on democratic debate and decision-making in an atmosphere of mutual tolerance and respect for differences (McEachern 1993:5).

### 8.6 Politics and regulation

Lastly, but not of least significance to governmental involvement in community-based environmental management, is the active political support of sustainable development at the local level. Of the three case studies analysed here, all are based upon programs or policies not yet enshrined within a statutory framework. Moreover, integrated catchment management, landcare and water quality monitoring programs are all new. Most community-based initiatives under the umbrella of these programs are less than five years old. Many such community group projects, like
the three case studies, were founded only three to four years ago. The point is that these community-based projects are not yet old enough for policy analysts to be able to gauge their success.

Evaluation of these community group efforts, given the extent and diversity in the projects themselves, is a little like measuring a charging elephant with a rubber yardstick\(^1\). There are many questions still left unanswered: Who is the evaluator? What are their goals? How do you take each group's objectives into account across a wide range of differing projects? How can the evaluation be objective? Is that desirable anyway? What measurements can be made? And so on. Although it is pertinent that these questions be raised, the issue of whether and when they can start to be addressed is both politically and technically problematic. This difficulty is exacerbated in Australia by the absence of any baseline indicators of ecological sustainability. So how can any evaluation of 'on-ground' changes by community groups or government departments be made without a starting point with which to compare the results?

The evaluation of government programs with a community involvement focus such as Landcare, Water Watch and Integrated Catchment Management programs is very difficult and a long way off yet. Critics of the community-based approach are calling for evaluations to establish the results of these projects. But the infrastructure necessary to conduct any evaluation is non-existent. Hence, continued funding of these projects can be interpreted as a political act of faith or a foolish waste of public money, given the notoriously short political time frames and the current climate of economic rationalism which requires a return on investment. If community-based environmental management efforts became legislated, would it help or hinder grass roots efforts? While this debate is also beyond the scope of this study, it is important to note that each state differs with respect to environmental policy. Ken Walker has examined the implications of current environmental policy and concludes that:

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\(^1\) This analogy is an apt description of the art of measuring borrowed from the title of a paper by Natalie Kishchuk and Shelley Borys at the 1990 Canadian Evaluation Society Annual Conference.
Coordination and cooperation problems surface as interstate rivalry, exaggerated claims for States' rights, and lack of uniform legislation and regulation (Walker 1992:12).

On the other hand, would centralist approaches and legislation solve anything given 'the lack of centrality of environmental issues to policy and planning' (Walker 1992:12)? Many of the problems investigated in this study are unique and complex, and scientists can offer no certain answers to them, at least not yet. Water quality monitoring problems in Western Australia may involve similar biophysical causes as those in other states, but are compounded by diverse catchments, management strategies and government policies. For example, one government interviewee in the Water Watchers case was concerned that grasshoppers were eating the new trees which had been planted under a governmental assistance program to help take up excess phosphorous and nitrogen and offset the effects of nutrient enrichment in the waterways. This was not of concern to members of the Mitchell River group even though water quality was an issue in the catchment.

Whatever political and regulatory responses are made to environmental problems, they cannot be implemented 'across the board' without reference to local conditions. The old 'command and control' style of governmental should be, and is being, phased out (Carley and Christie 1992). More flexible approaches to environmental management which place more attention on alternative methods of government intervention are required. Discussing service delivery, Osborne and Gaebler (1992) suggest that there are three categories of intervention. In addition to the traditional methods of governmental service delivery such as subsidies, licensing and regulation, there are i) innovative methods such as changing public investment policy or catalysing non-governmental efforts and ii) avant-garde techniques such as disbursing seed monies, promoting voluntary associations and self-help. Osborne and Gaebler quote an American politician to support their case:

We believe the central purpose of state government [is] to be the catalyst which assists communities in strengthening their civic infrastructure. In this way we hope to empower communities to solve their own problems (Governor Lawton Chiles, cited in Osborne and Gaebler 1992:30).
While I support the move toward alternative sources of government support for community-based environmental initiatives, I do not share populist, but naive expectancies that groups can be empowered to shoulder all environmental responsibility. Local community action cannot proceed outside or against powerful state or private sector institutions. Local community groups are not romantic but hard-working rural folk united in their common goals, sharing common ideals and working together toward a common future. Nor is community group action independent of the political structures and processes of grass roots democracies. ‘Although an alternative development must begin locally, it cannot end there. Like it or not, the state continues to be a major player’ (Freidmann 1992:7). This argument mirrors one of the key contradictions of sustainable development:

Self-determination and participatory democracy are promoted in this world as basic rights; but the paradox is that this aim may contradict the need for purposeful action at the global level (Dovers and Handmer 1993:220).

In practice, the mix of centralised versus dispersed responsibility will be contingent upon the issue and context. In Australia, both state and national governments have been major players in developing the National Strategy for Ecologically Sustainable Development (Commonwealth of Australia 1992b), and the ESD process also involved industry and NGOs. There has also been considerable emphasis placed on the 1992 Intergovernmental Agreement on the Environment which establishes principles for coordinating environmental policies among all three tiers of government; federal, state and local. However, despite good intentions, it is widely acknowledged that sustainable development is rather better in theory than it is in practice (Redclift 1987; Pearce et al. 1990). Some believe that ecologically sustainable development would be implemented more often if there were more localised legislative framework for environmental management, akin to that existing in New Zealand under the Sustainable Management Act (1991). However, others point to the two tier system of government in New Zealand compared to the three tiered system in Australia with its attendant complications.
I believe that because of the lack of such leadership at national level, there is considerably less knowledge of, commitment to and more suspicion about what government is doing for catchment management committees at the local level, as witnessed in Water Watchers and the Mitchell River Watershed groups. In the latter case, confusion surfaced as mistrust about community-government relationships. Government involvement in the Mitchell River group was divided between roles for stakeholders, supporters and advisers. One interviewee said: *government can't do a real lot*, but other group members pointed out that government officers can act as advisers to politicians if they sit on community groups. This is perhaps more of a reflection of the naivety of community members given most government representatives involved were junior officers, or too far away from the centre of power in the cities to make much difference. Two government members of the Mitchell River group were a little more sympathetic to the community cause. One said that the ideal role that community groups can play in environmental management is to prick the conscience of governments in an attempt to *keep the bastards honest*. One said that government should play a role in providing more recognition of community groups' legitimacy in any given catchment. But perhaps this is too threatening a process for departments who have had prime responsibility over economic and environmental management of remote areas since early this century.

Stewardship groups such as those analysed as part of this study also undertake some advocacy work, particularly when it comes to lobbying politicians. However, of all the rural communities visited as part of this research, not one person spoke well of their local Member of Parliament. Many, on the other hand, spoke of the indifference they felt emanating from national government or indeed spoke of how they believed they were actively overlooked in comparison with their urban cousins. For example, members of the Downside Landcare group told me of their invitation to a local Member of Parliament to come and investigate local land degradation. Members said their letters were repeatedly ignored and that when a reply finally arrived, it did not offer any real explanation behind the refusal.
Members of Water Watchers also spoke disparagingly of their face to face experience with local politicians. Situated in a marginal electorate on the edge of the city, Water Watchers were approached to host a media-event so that their local Member of Parliament could hand over some water quality monitoring equipment. After the event, it transpired that a government department had liaised with the Shire Council to promote the Shire’s ability to monitor phosphorous levels. ‘Getting in on the act’, the State government Member for the Environment decided to unveil the equipment and hand it over publicly to the community group. After the event, the machine disappeared as suddenly as it had arrived into the Shire Council where is remains to this day, untouched by members of Water Watchers. This perhaps illustrates the difficulties experienced by politicians who cannot afford to spend very much time with any one constituency group given the range of groups and the lack of time and resources available. It is quite like the claims made on extension officers, except on a rather grander scale. Instead of using single politicians, solitary extension agents or isolated facilitators to be the fulcrum upon which the future of community group and government interaction swings, there could be more people power invited into the middle-ground. This subject is taken up in detail in Chapter 9. In the meantime, consider a more traditional role for government involvement in local environmental management.

8.6.1 Regulation

The customary role for government, perceived by people who live in the Mitchell River catchment, was regulation. It is premised upon a legal order which is instituted through a ‘structure of rights, obligations, powers and processes [which] underpins our democracy and also defines its limits’ (M’Gonigle 1986:255). While there may have been a trend away from the heavy hand of the law in other parts of Australia, there is a residual need for it in far north Queensland. In the Mitchell River Watershed, and especially in Mareeba, there has been a kind of lawlessness associated with that country which may have arisen from an historic opportunism for quick fortunes in gold mines, but which carries through into the ideology of the present. While there on fieldwork, I heard of the discovery of 20 illegal airstrips from the secretary of the Mitchell River group who explained that there was still a lot of fossicking in old gold mines. A few days later, three Melbourne men were
caught trying to grow and export cannabis in the western end of the watershed. They had been caught because one of the three had a disagreement with the other two and had 'dobbed them in' to the police at Kowanyama. I also heard of the illegal export of Golden Shouldered Parrots, an endangered species in the watershed. And to cap that off, one of the representatives from the Department of Minerals and Energy told me how he had been recently met by a one legged naked man toting a shotgun when inspecting some of the small mines in the eastern interior of the region. Although this may sound a bit far fetched, there is a tendency for residents of the far north to engage in a widespread pretence at disregarding the law, and government or police officers associated with upholding it. Government officers are still associated with stock control, monitoring of mining leases and generally acting as 'land and environment police'. To a large extent the historical legacy discussed more in Appendix 5 has carried over into the current era of more open and consultative government practice. Several comments referred to the Mitchell River community's underlying mistrust of government. One government officer advised other government members to: tread cautiously — be aware of the fear of government — be sensitive [to community needs]. Another suggested that catchment management committees should not: let too many government people [on them] otherwise people don't want to have anything to do with it. Other comments echoed the call for political leadership above, but did not agree with the regulatory approach:

*Government have a duty to see the health of the river lifted — [but we] can't do it with a big stick.*

*Wear your uniform, but leave your big boots at home*  
(Mitchell River group government officers, August 1993).

The perception that government officers are there to see that regulation is enforced is still a reality in the minds of both government officers and community members. However, as mentioned above, some Mitchell River group government officers now prefer a 'softer' management style which favours practices such as consultation and greater public participation. In reality, the extent to which regulation is a function of government involvement in community groups is low. Regulation is associated
more with government intervention in individual properties and affects specific landholders far more than any group. However, as noted above, the perception of regulation and enforcement still remains.

8.7 Summary

It is very important to investigate the role of government in helping or hindering community groups. Behind the current push for more information about community groups lies a serious concern over how to implement environmental management policies in regional areas. Of the five principles discussed in this chapter — resourcing, facilitating, informing, consulting and legislating — much of the discussion has focussed on the moral persuasion end of government policy, as opposed to regulation or fiscal incentives. These policies have been labelled the 'social response' model, set up by governments in an attempt to have communities respond to local threats or opportunities. The goal of this model is 'to shape public attitudes through normative persuasion rather than prescriptive direction' (Synnott 1991:43). However, that presumes that there is some shared vision of sustainability between communities and various levels of government. What is reflected in the three case study communities is somewhat different in that there is seldom such agreement across government departments and often outright disagreement. It is foolish to expect that there would not be competing interests, values and beliefs across government departments as well as within such diverse communities as the Mitchell River Watershed. However, these principles of government involvement in local environmental management provide a structure which is integral to the cooperative management of local environments. The next chapter investigates the pros and cons of both top-down (governmental) approaches to environmental management and bottom-up (community) approaches to environmental management.
Bottom-up meets top-down
Photograph by: David Eastburn, Murray Darling Basin Commission
Flooded red gums, Barmah, NSW.
The purpose of this chapter is to analyse both community and government approaches to environmental management and suggest new ways in which alliances may be forged between the two. Therefore, it is timely here to summarise the 'pros and cons' of each approach illustrated in Figure 9.1 for an overview of the following discussion. For if the argument of this thesis is to be convincing — that neither top-down nor bottom-up approaches to environmental management are sufficient for sustainability — the problems of each approach must be fully exposed and analysed.

9.1 Top-down approaches

Internationally, nationally and at state government level, there is a need for central planning and coordination. Environmental problems cross local, regional and national boundaries, and so different types of government approaches are warranted. This is evidenced by the emerging framework of initiatives to deal with the spectre of climate change with state/provincial efforts nesting within national efforts, such as Australia's National Greenhouse Response Strategy (Commonwealth of Australia 1992b), which in turn nests within the international setting of the UN Framework Convention on Climate Change (1992). Undisputedly, national governments are somewhat better at implementing certain civic responsibilities and policies than state or local governments. Their role in local environmental management is not in question here, however, I argue that their methods and practices are limited when it comes to developing community-based environmental management. The disadvantages and problems associated with implementing local environmental management policy from the top-down are discussed first.

9.1.1 Problems with the top-down approach

As with any policy originating in one context and being transferred to a different context, problems emerge. The experience of the Australian landcare movement (refer back to Chapter 6 for details) is an example of a community-based (bottom-up) strategy being interpreted as a (top-down) national campaign. This section highlights how government involvement in local environmental management can be weakened by the rigidity, size and culture of older style 'command and control' type bureaucracies.
### Table 9.1: Comparisons between the top-down and bottom-up approaches to environmental management

<table>
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<tr>
<th>Potential for:</th>
<th>The top-down approach</th>
<th>The bottom-up approach</th>
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<tr>
<td>- Awareness of national and international forces shaping local practice</td>
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<td>- Efficient utilisation and equity in distribution of national resources</td>
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<td>- Coherence between local, catchment-based plans, administrative assistance</td>
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<td>- Access to specific technical and research-based information</td>
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<td>- Locally-based catchment planning</td>
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<td>- Awareness and monitoring of local conditions</td>
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<tr>
<td>- Effective utilisation and equity in distribution of local resources</td>
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<tr>
<td>- Local action based on ownership of problems</td>
<td></td>
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<tr>
<td>- Networking across like-minded groups and people within groups</td>
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**Middle-ground**

**The integrating links:**

- Effective facilitators
- Involvement of schools and other local organisations
- Community resource centres
- Networked groups and facilitators across regional and state boundaries

**Danger of:**

- Lack of awareness of local needs and conditions
- Difficulty in identifying and coordinating local contributions to national programs
- Emphasis placed on large groups, more visible groups and large-scale projects
- Departmental and disciplinary-based barriers to effective communication
- Short-term politically expedient actions
- Simplistic reductionist framing of environmental problems in purely biophysical terms
- Institutional and ideological barriers to local participation
- Formula/prescriptive approach to community groups
- Duplication of effort, waste of local resources
- Parochial attitudes, not seeing the broader picture
- Inappropriate local expectations of achievements
- Entrenched leadership not successfully helping the group to progress
- Lack of group-process skills and an inability to evolve and mature
- Perception that land users' lack skills and education required for environmental management
**Positivism**

In relation to the specific difficulties in agriculture and community-based environmental stewardship, some government officers believe that the present crisis is all about fixing the soil, or the water, or desertification, among a large range of other problems. Soil acidity problems, nutrient depletion (with concurrent enrichment of the waterways) and tree death for example, can all be fixed by science and technological solutions, according to a few. One farm management consultant interviewed as part of the preparatory field trip to Downside expressed the opinion that: *all we need is some new technological innovation or farm management practice and we can go on farming without these Landcare groups.* Not so in my opinion. First, the naive belief that there is some technological fix which will decrease rural society’s reliance on other people is profoundly disturbing. Second, landcare groups are themselves sources of innovative ideas about adapting or implementing farming methods. There are a number of other difficulties associated with single minded, positivist, narrowly defined scientific solutions (cf. Nix 1984). However, it would be unwise to over-generalise and damage the significant reputations of scientists and agricultural extension officers who espouse other views of science and environmental issues (cf Dunn 1989, 1991). When developing the following argument, I have deliberately chosen to take a community-based perspective. It does not mean that I wholeheartedly agree with the commonly held populist¹ beliefs concerning the narrowness of traditional agriculture.

Firstly, scientific and technological solutions based on rational science are not solutions. At best, rural Australians can hope to alleviate the effects of soil structure decline, but such complex and widespread degradation problems can never be ‘fixed’ (Dunn 1991). Or, as one interviewee put it: *we can’t put it back to better than nature.* And, if there is some temporary respite found to problems such as soil acidity, for example by applying lime, scientists still do not know for certain whether it is just a temporary measure — because there is insufficient baseline

¹ Here I am referring to Brian Furze’s definition of rural populism as ‘an alternative development strategy… [which has] been characterised by a quest for small-scale cooperative villages within which industry and agriculture could develop symbiotically under a system of decentralised control and management’ (Furze 1992, p.85).
ecological knowledge to predict what effect current remedial actions will have in the future. In the past, traditional curricula have taught agricultural extension officers that science is certain, predictable and secure, offering a range of ‘solutions’ to any one problem. Presently and in future, more attention will have to be paid to the risks, uncertainties, complexities and fuzziness of science:

Extension and research is being required to change to mission-centred, rather than problem-focused approaches; it is having to learn new skills to work effectively at a community, rather than a paddock level; and it is having to concentrate far more on process — who is involved at what level, who asks the questions and who listens, and who owns the process, rather than on its traditional concerns of tasks and outputs (Campbell 1994:14).

Some top-down approaches to agriculture in the past have seen ‘solutions’ implemented nation wide. For example, years of superphosphate applications on crops and use of leguminous pastures (especially subterranean clover) brought benefits to many Australian farms for decades — financially, and also environmentally in cases where such pasture improvement was implemented to help control soil erosion. A steady decline in soil pH in the wheat and sheep belts of Australia did not emerge as an acidification problem until it exceeded a threshold at which productivity was impaired.

Secondly, the traditional agricultural research culture has tended to strengthen the divide between ‘experts’ and farmers. Farmers, like many other ordinary Australians, have seldom been encouraged by experts to come up with their own new ideas and approaches to old problems, despite the fact that they always have and always will. In Queensland in the 1950s and 60s the best extension officers relied very much on transfer of knowledge from successful farmers’ innovations to the wider community. More recently Australian farmers have lived with the top-down chorus of ‘ask an expert’, or ‘check it with the Department’ first. For example, in the southern slopes region of New South Wales, some landholders perceive that Agricultural scientists still rely on statistical trials and plots isolated from real farms in real conditions, which farmers believe only serves to reinforce
the divide between agricultural research and agricultural practice (Vanclay and Lockie 1993). This fails to recognise the deficiencies of 'white-peg' agronomy because a typical statistically designed field experiment provides a very poor basis for extrapolation of results from the plot to other locations and in other seasons. This long standing, but unwritten principle of intellectual elitism has contributed to 'a tendency for the state to suffocate local initiative and responsibility' (Pretty and Chambers 1992:24) and effectively removes local disposition toward self-reliance.

The third symptom of positivism associated with the top-down approach is its fixation with biophysical problems, rather than looking more holistically at the range of problems community groups face which encompass social, economic and cultural dimensions in addition to the biophysical ones. Many government officers in various bureaucracies have helped propagate the belief that all we need to do is to find indicators of environmental quality at the top and bottom of a catchment, measure them and implement appropriate remedial steps. They forget that the environment is not simply comprised of a set of discrete biophysical issues. While tree death, dryland salinity and surface waterlogging are severe problems, all have a socio-economic origin. Just as important to the future environmental health of rural Australia are issues of declining rural populations, teenage suicides and lack of adequate education and health services. Community-based environmental management is about land and water quality, but it is also about people and their lives in the country, which cannot be treated simply as scientific obstacles to be hurdled.

To be fair, current government policies on regional development have recognised the need for integration of these issues. Programs such as the Integrated Local Area Planning (ILAP) initiative of the Commonwealth Department of Human Services and Health and the National Local Government Environmental Resource Network (NLGERN) project funded by the Commonwealth Department of Environment, Sport and Territories have begun to address this. The latter acts as an 'information broker' between local, state and federal government. In a recent (NLGERN) publication, integrated environmental management is reported as an outcome of:
cooperation on environmental issues between [local government] councils in the same region, between the same work areas in different councils, and between councils and the regional community, as in water catchment action committees; capitalising on the links between regional, social, economic and environmental resources, as in eco-tourism and in waste marketing consortiums; and combining all available skills in resolving local issues, as in using management teams which include administration, planning, engineering, health and environment skills from the combined councils and their regional community (Anon 1994).

**Disciplinary chasms**

In recent attempts to work with local communities and groups, extension officers who previously found that their training in agriculture at university or college was adequate, are now desperately seeking systems. Systems, that is, to better understand the interaction between human, cultural socio-economic organisations and non-human, ecological biophysical realities (Bawden 1991b; Frank and Chamala 1992). However, there are a number of difficulties which prevent interdisciplinary studies from informing local debates about environmental management. For example, universities are typical examples of traditionally conservative, hierarchical and slow moving organisations. University education is not at all progressive when it comes to preparing students for complex interactions between the land and its people, and among a bewildering array of issues, personalities, values and timelines (Pretty and Chambers 1992). One of the most difficult problems confronting policy makers and university lecturers alike, is how to prepare extension officers, students and facilitators for liaison between government and community groups (Wilson 1993), and across a range of disciplinary approaches to catchment management.

Many professionals within agriculture and natural resource departments have little training in 'people skills' or participatory processes, or even ecology, because traditionally their departments have had a production-oriented, reductionist orientation. Among the hundred or so NSCP-funded landcare facilitators, project officers and coordinators there are journalists, archaeologists, teachers, engineers, foresters, horticulturalists, small business people, farmers and agricultural scientists, and almost half are women. Yet most
of the state agency staff they are working with are male agricultural science graduates (Campbell 1994:16).

As noted in Chapter 6, a committee of landholders from the Downside Landcare group appointed a local farmer with an agricultural science degree who was also trained as a teacher, rather than choose someone from the many university educated young extension specialists who applied for the position. The essential difference was that the former was a local person with locally developed communication skills and a broad appreciation of the complexities underlying the landcare group, while the latter, in general, were not. The point here is not that a science background makes you less qualified for the job —it does not. However, science is, by itself, not enough to cross some of the disciplinary chasms.

**Departmental barriers**

Departmental barriers are also well entrenched in many instances. To some of the more established public servants in the environment arena, the idea of collaborating or cooperating with a rival department is foreign at best or abhorrent at worst. Some State government departments (not to mention the Federal and Local Government departments), are uncooperative with each other to the extent that community groups suffer from a lack of access to information, fragmentation of decision-making or confusion over available resources, to name but a few complications:

Salinity is a problem in which a number of departments have some role to play, but these individual departments have a limited charter when it comes to dealing with the problem’s many facets, ranging from community welfare to researching and interpreting geological processes. Consequently, in the past this issue has been dealt with in a piecemeal manner (Syme and Eaton 1989:93).

A related issue is the extent to which bureaucrats are not paid or rewarded for liaison with other departmental colleagues. I am not suggesting that liaison skills are unrewarded. Rather, I am suggesting that despite the best intentions of inter-departmental committees and coordination efforts, there are still differences between
departments, (and between policy and administrative units of the same department) which hit at the more fundamental cultural alignments of groups of employees. Indeed, inter-departmental cooperation often makes their job harder and is often not encouraged by government systems since: ‘an enthusiasm for an inter-sectoral approach can jeopardise a career, and within most governments, there is little impetus to liaise with departments competing for influence and limited resources’ (Carley and Christie 1992:160). This may have changed more recently with many government departments establishing ostensibly open and accessible policies on the availability of information. For example, consider the legislation in Queensland stipulating that information must flow freely between government authorities which occurred as a result of a change in political ideology when the long established conservative government was exchanged for a more liberal one. However, there is still much evidence to the contrary illustrating that with the current moves toward increasing privatisation of government, there is an emerging ethos of competition for information in an era of ‘new public management’ (NPM) characterised by increasing farm management and planning. This is well illustrated by the Farm Management 500 ‘club’ (Johnston 1992) and by recent critics of NPM:

For example, if members of a government scientific organisation are put into competition with each other as NPM requires, they will no longer have the collegial incentive to share information (Hood and Jackson 1992:118).

**Culture of the old-guard**

Several authors have written about the general constraints Australian rural industries face when working with centralised and rigid bureaucracies typical of current agricultural institutions (Lawrence 1987; Furze 1992). However, it is only recently that Australian research has become increasingly critical of specific inflexibilities in the way our agricultural institutions are run at the local or regional level (Campbell 1992b; Martin, Tarr and Lockie 1992). The so called ‘culture of the old guard’ has prevented many new paradigm, participatory approaches to land management from being realised. In Australia, attempts to teach holistic, systems-based and people-centred approaches to agriculture have been made in few of our agricultural universities (Bawden, Ison, Macadam, Packham and Valentine 1985; Dunn 1989).
However, there are many attitudinal and ideological barriers created by the old
guard within other universities and agriculture departments to prevent such change
from occurring. To be fair, it is not only career-minded senior managers who
discriminate against change, it is also an increasing lack of resources, among other
constraints.

Funding and the messenger state
Of all the problems associated with top-down policies of community-based
environmental management, perhaps the one which is most widely recognised is a
lack of resources. This is true of projects in their initial submission stage — there
are invariably more submissions than there is cash to go around. But it is even
more true of ongoing projects. In the past, governments have displayed a tendency
to overcommit funds in the first year or two of a new program such that by year
three and four there is barely enough to support existing projects, let alone to
establish new ones. The National Landcare Program is an obvious exception to this.
Funding was initially announced for a ten year period (The Decade of Landcare) and
was bilaterally supported in Parliament before the program was announced, making
it the first such initiative in Australian political history (Farley and Toyne 1994).

Increasing foreign debt, rising unemployment and variable interest rates all form part
of government rationalisations for the decision to cut expenditure of new programs
in the face of increasing international economic pressure. Surely the national
government cannot be blamed for its position as a messenger bringing the bad news
of international agricultural decline down to the local level? Or can it? Is it true
that stewardship activities have arisen as a direct result of governments disbursing
their responsibilities to care for the common good onto the community? Some
would argue that the problem is not that resources are scarce, but that ‘dry’
economists govern the disbursement of finance and resource security is all in the eye of
the beholder (Geoff Syme, Senior Principal Research Scientist, Australian Centre for
Water in Society CSIRO, pers comm, June 1994). Whatever the political
interpretation of this act, it is clear that environmental community organisations are
feeling the pinch.
The most disastrous effect of this under resourcing often falls on the shoulders of a group facilitator. Where funding is tight, in many instances the facilitator ends up doing too much work with too little support in too short a time frame. The net effect of this is that often the group's facilitator leaves, and in a worst case scenario, the group itself may fold. Overload and burnout will become increasingly common among both group facilitators and voluntary leaders of community groups unless there is a new infusion of resources to enable people in those positions to do their job more thoroughly, ie. with more time and attention to detail.

*Change and uncertainty*

Perhaps as a result of a diminishing resource base, or maybe as an effect of cabinet reshuffling for party members, there has been a noticeable rise in the number of departmental restructurings occurring in all states. This not only angers and disturbs public servants, many of whom may have just become accustomed to the last readjustment, but it also raises issues of identification, ideology, security and (more importantly) creates dilemmas for community groups and the public generally. An example of this type of problem for community groups is the confusion arising over names. In New South Wales, the Soil Conservation Service, a statutory authority known as Soil Con, was merged in 1991 with the Department of Lands and Surveys, to become the Department of Conservation and Land Management, (CaLM). However, it appears that CaLM does not yet enjoy the same recognition as Soil Con did and so community members oscillate between names. The confusion is exacerbated when former Soil Con officers continue their personal alignment with the old Service at the expense of the new department. Yet another example is that of the Victorian Department of Conservation and Natural Resources (CNR) who were known before that as the Department of Conservation, Forests and Lands and are sometimes referred to as the Department for Constant Name Revision (CNR). It has also happened in Western Australia.

Although this type of change and uncertainty is not inherently 'bad', it can be confusing and time-consuming for people at the community level who have a huge range of more pressing uncertainties to face on a regular basis whilst attempting to make a living off the land. It also takes government institutions a long time to
establish trust and cooperation with communities and may leave government officers with a sense of unease or discomfort. Importantly, from the government's perspective, a common rationale for these mergers is to integrate resource and environmental concerns in one institution, rather than have them separate. But, while the arguments for such mergers are solid, in practice they often leave people wondering what has just happened or feeling threatened by the impersonality of a large bureaucratic system.

**Large-scale (green-field) planning**

An international preoccupation with large scale development in the 1950s through to the 1970s served to marginalise many small scale and locally-based projects (Brokensha and Riley 1989). Dams and electricity supply projects typified the top-down preoccupation with greenfield environmental planning of this era in Australia (Blackmore 1991) which provided a problematic signal for community-based environmental groups. Some 'first up, best dressed' community groups still believe that to get in first and set up big was necessary for continued financial security from government. During a preparatory trip to select prospective landcare groups, I interviewed the chairman of one such community group. Members had written a series of large scale funding submissions and lobbied local, state and federal politicians at the expense of conducting local stewardship activities. When the submissions were rejected, not only did group members lose face and momentum locally, they became more and more prone to cooption into state and federal government agendas. In their bid to become advocates of community-based landuse planning, they forfeited their focus on local needs and opportunities and effectively became an advocacy group, rather than a catchment-based landcare group.

Many writers have commented upon the danger of community groups getting caught up in government bureaucracy (Langton 1982; Gardner 1991b; Pretty and Chambers 1992). There is a danger:

> for local groups in a relationship with the state that their initiatives and resources may become harnessed to centrally determined objectives, and so become captured by the state (Pretty and Chambers 1992:24).
Langton (1982) points to three serious concerns regarding government cooption of community groups: 1) becoming financially and ideologically dependent upon government for fear of ‘biting the hand that feeds them’, 2) subtly altering groups’ goals and mode of operating through increased contact with government, and 3) overtly encouraging group facilitators to fit in with government in the hope of getting another government job. This last type of cooption was quite apparent in the community group referred to above and is becoming more common where groups’ own needs and concerns (for example with social and educational objectives), become secondary to those of state government departments. In cases where a government department has a legal mandate to coordinate the use of rural resources, for example, that department is not likely to support or finance community-based education programs about the resource since that function is primarily one for the education department. This level of cooption is exacerbated if political itineraries become enmeshed in a group’s successes. Extreme cooption is evidenced when a community group begins to take on characteristics of the bureaucracy with whom it is working to the detriment of other residents. However, this was not prevalent in any of the case study community groups of this research.

To summarise some of the problems of government involvement in local environmental management, it is appropriate to cite a few words of warning issued well before many of the current participatory processes of government were instituted:

The continuing innocent reliance upon the expertise, anonymity and impartiality of government bureaucracies has not exhibited or encouraged the type of democratic involvement in environmental management wherein our hope for a better type of survival surely lies (Powell 1976:173).

There are many identifiable problems with the way in which government agencies become involved with local environmental management. Some of these are discussed above and there are others which are beyond the scope of this study. However on the basis of the evidence pertaining to the three case studies, without government involvement in local environmental management, it is unlikely that
community groups would have reached the stage at which they are able to undertake environmental stewardship activities. However, bottom-up approaches are themselves subject to criticism and deserve closer scrutiny.

9.2 **Bottom-up approaches**

Community-based stewardship groups have grown in number and are diverse in strategy, as noted in Chapter 1. They often have a history of alternative development evidenced by increased local economic capacity, empowerment and other self-organising principles:

> Such local empowerment is the common political thread that runs through numerous contemporary political movements, from wilderness preservation, to the future of the family farm, to native self-determination, to the Green movement, and to liberation theology (M'Gonigle 1986:305).

However, this type of bottom-up activity is not solely the province of environmental groups. Grassroots action is more commonly associated with black activism, poverty, environmental movements in developing countries, youth alliances, feminist movements and anti-war campaigners. But common to them all are barriers and problems arising from their localism.

9.2.1 **Problems with the bottom-up approach**

As with top-down approaches to community-based environmental management, so are there constraints to working from the bottom-up. Several of these constraints closely resemble those of the top-down, especially in terms of global limitations due to macro-economic conditions and international affairs. As with the previous section, the following problems and difficulties represent an extreme point of view in order to demonstrate these barriers more clearly. However, it is important to state at the outset that I do not agree with centralist top-down positions that denigrate all local attempts at self-determination.
Resource efficiency

One of the frequent criticisms of local approaches, whether they are planning, health or environment related, is their capacity to duplicate each other. This is not an insurmountable problem on its own. However, the accompanying duplication of resource use does create difficulties. For example, water quality monitoring groups in schools often require the services of a government adviser. Unless these groups are coordinated and have the capacity to share ‘experts’, there is a danger that the human resources required to transfer information will be distributed inefficiently (and sometimes inequitably) among a dozen different schools in the same area.

Another more persistent problem evident in community groups occurs when many groups request federal government money for very similar functions. The result of this duplication of effort is that many submissions don’t get past stage one. Duplication could be avoided here, with more attention paid not only to the unique geographic position of the community but also to the nature of their program of works, via a catchment planning network and coordination base in each region, similar to the function of the Community Catchment Centre in Pinjarra, Western Australia discussed in Chapter 6.

Exclusion and belonging

A rather more serious problem for emerging community groups is their tendency to exclude entire sections of the population (assuming that equity is a desirable goal). Largely unwittingly, women, the elderly and in some cases, poor people have been overlooked in the drive to set up land management programs. Although I did not observe such overt exclusion in the case studies (despite the unintentional bias against women in the Mitchell River group), there are some documented cases in country towns of rural elitism whereby community group membership for some people is actively discouraged and stratified (Gray 1991; Wild 1974). Dempsey (1992) has illustrated that this type of exclusion can often be as much a function of inequality between the sexes as it is of rural elitism. Since much community group activity is based around social events, it is crucial to be aware of these sociologically delicate issues of representation, gender and race issues. Notably in this research, racism was actively discouraged in the Mitchell River group and Aboriginal
members of the Kowanyana community were encouraged to belong to the group. However, other Aboriginal communities had not yet been invited to attend meetings which may reflect a more subtle kind of exclusionary behaviour.

**Acting too locally, not seeing globally**

Another issue not specific to environmental community groups is that of parochialism. Some environmental groups suffer from not seeing the global picture and its incumbent effects on the local community. Acting only with local interests in mind leads some groups to band together and act at the expense of other groups further down the catchment. A typical example of short-sightedness in a bottom-up approach is that of a salt-action group members who decide to put in a tiled drain to more effectively drain salty water from their catchment into a river where it will cause problems for others. ‘Out of sight — out of mind’ operates in a significant portion of local cases where groups may not recognise or fully appreciate the implications of such a decision.

Misunderstanding of global issues or no understanding of global issues is not as much a problem by itself as is the attendant waste of local resources if local goals are not formulated in the context of international, national and regional frameworks. Drawing upon local economic development theory:

> The main dangers of the bottom-up approach arise when local initiatives are formulated in a vacuum, without due consideration of the broader context (eg. provincial, national) in which the community functions (Bryant and Preston 1987:4).

Of course, community group goals are dependent upon the nature of ‘the problem’ and upon the spatial and temporal context in which it occurs. Referring back to an earlier example of climate change, one would not expect very many community groups to take local action about such global issues. But if that was members’ intention, I surmise that very few community groups would tackle such a big issue without consideration of other actors, other institutions and other policies.
Great expectations

Another common fault of bottom-up approaches to environmental management is the retention of unduly high or unrealistic expectations about what can be achieved given a specific timeframe and set of resources. Perhaps this situation is preferable to one in which community groups have little or no expectations of what can be done, however, neither situation is desirable. Difficulties arise all too frequently when community-based environmental groups have unreasonable expectations of government handouts. For example, if a group attempts to change government submission and disbursal policies, or to lobby government for resources and opportunities in excess of local expertise, undue strain and pressure is placed on the community. When this occurs, the group chairperson or facilitator may ‘burnout’, and/or the group may become increasingly politicised and frustrated with the resultant inaction and disappointment.

In instances where a group has little or no expectation of success, questions that should be asked include: why did this group form and who initiated its formation? Workshops and seminars on burnout are part of the current ‘solution’ to problems of overload for facilitators and voluntary group leaders. However, for groups who are lacking in enthusiasm and commitment, careful thought needs be given to ‘whose problem is it?’, ‘how well can the group function under these conditions?’ and ‘what does the group expect to achieve?’

Miserableness

At a series of meetings with farmers in southern New South Wales, one spoke to me of the ‘miserableness in the bush’ to account for some of the feelings of futility he experienced. It seems that due to many complex economic and social factors, in addition to the current ecological problems, there is an element of defeatism appearing. Lack of social cohesion and an unwillingness on behalf of some landholders to believe in group process, leads to stress in farming families (Bryant 1992). Historically, farming was almost an expression of frontierism as demonstrated by this excerpt from mortgage documents arising from the Returned Soldiers Settlement Act (1924).
the Mortgagor will from time to time take all necessary steps for keeping down and destroying all rabbits and other animal and insect pests and for exterminating all prickly pear and other noxious weeds and all herbage pests from off the said land and for cutting and keeping down all undergrowths, suckers and scrub that might interfere with the enjoyment of the said land (Common Law Mortgage 1924, provided by a Downside Landcare group member, September 1992).

Nowadays landholders are experienced farming crises induced by suicides, divorce, unemployment and the vagaries of the medium price taking agricultural economy. Perhaps if landholders were still to pay the £1 annual repayment fee that was common in 1924, there would not be such miserableness. As it stands, I argue that the landholder and the landscape are both unwilling, but codependent allies fighting an international losing battle with transnational corporations and agribusinesses (Lawrence 1987; Burch et al 1992). In this situation, one can understand the hesitation some farmers feel about joining community groups, exposing family crises and putting effort into forming new social relations which may or may not offer any solace from their existing social, financial and ecological problems.

Size of the group
As new groups mature and develop, they move through the forming, storming, norming and performing time scale of organisational behaviour (Chamala and Mortiss 1990), discussed in Chapter 5. One of the difficulties for groups in the establishment phase is the acquisition of more group members without due consideration of the quality of interaction among members. Overly large numbers of people in groups can threaten the stability and long term continuity of local environmental management action. Specialists in group dynamics maintain that 'the size of your group affects how communication is conducted, and the satisfaction of members. If you have a group of twenty or more, people will have difficulty talking to each other' (Chamala and Mortiss 1990:57). In some cases where groups have started quickly, group size mushrooms as more and more people become interested and motivated. Management consultants have long espoused that an optimal number for decision-making and action groups is nominally between 5–10 people, and that this can be achieved in large groups through subcommittee
structures (Auvine, Densmore, Extrom and Poole 1977; Dick 1991; West 1992). Using subcommittees provides a means of involving more people in less threatening contexts thereby giving all members some tasks and responsibility.

Growth in size can threaten effectiveness: too large groups can allow social hierarchies to dominate (Pretty and Chambers 1992:24).

In terms of providing a common good, for example, reduced salinity or more trees planted across a catchment, small groups are better off than large groups, according to Mancur Olsen. This is especially true for larger groups suffering from ‘freerider’ syndrome. Freeriders are group members who may benefit from provision of a common good without ever having to contribute toward the cost of attaining it. Olsen states, ‘small groups will benefit from their common interests better than large groups’ (Olsen 1965:52). I believe this is especially true for members of small groups where personal gain may outweigh the cost of involvement simply through working collectively toward providing a common good for the district.

Leaderitis
The function of a voluntary leader in community groups can be a potentially limiting factor in local strategies environmental management, as noted in Chapter 5. As community-based environmental groups mature and evolve, effective leadership will become a critical issue. As the first wave of landcare groups nears the end of their third year, most have not yet undergone a change in leadership. For an effective transition to stability and maturity, more attention will have to be focussed on building voluntary leadership capacity. Although this was not the experience of the Downside Landcare group, if other environmental community groups are to survive there must be smooth transitions in leadership which permit new leaders to come forward and prevent the onset of ‘leaderitis’. Pretty and Chambers state that leadership problems can occur when ‘original leaders do not build up secondary leadership, and so a vacuum grows within an institution’ (Pretty and Chambers 1992:24). This is certainly true for many Australian rural communities suffering from a fear of the ‘tall-poppy-syndrome’. In rural society, the tall-poppy is the first to get cut down to size through the unwanted and adverse attention of family and
neighbours. Group members may perceive that they are incapable or ill-equipped to follow in the footsteps of an original group leader for fear of recrimination from their peers. One voluntary group leader writing about his experiences of leaderitis said:

> the role of the leader/educator [is] to invite group members onto a higher level of environmental awareness and ecological interaction, even if this involves some risk that the idea will not be successful immediately (Wittwer 1992:805).

This risk was certainly apparent in the Downside Landcare group. Although he encouraged potential leaders to come forward, according to many interviewees it seemed that the chairperson at the time was so entrenched as a voluntary leader in the district as to frighten any potential ‘leadership challengers’ away.

**Lack of skills and education**

With increasing numbers and varieties of participatory approaches to agricultural and environmental management, (Cornwall et al 1992), there is more recognition of the value of experiential learning on behalf of those participating. However, one of the most debilitating features of community groups in this study was members’ *perception* that they do not have sufficient skills and lack the ‘right’ education in order to function effectively, despite evidence to the contrary in Chapter 4. Despite the variety of technical, financial, planning and manual skills perfected on properties every day, many rural people have come to believe they need experts to teach them the basics of land management. This message, reinforced over decades of Australian agricultural extension, has done untold damage to bottom-up approaches to problem solving. But it hasn’t entirely dampened the experimental spirit of the landholder. On the contrary, there is a great deal of pride at local and regional field days to display local innovation and adaptation of machinery. And yet somehow many Australian farmers still believe that their knowledge does not count.

Another aspect of rural people’s knowledge which actively works against group approaches to environmental management, is the disinclination among some rural people to share knowledge. Some landholders prefer to keep their knowledge to
themselves and not to encourage the type of cooperation typical of participatory practice. This is understandable in the context that farming is not just a way of life, but a business venture which is increasingly reliant on good quality information for sustainable management. Much has been written about rural people's knowledge (see Scoones and Thompson 1992; Pretty and Chambers 1992) but it is questionable as to whether there will ever be enough known about this subject to devise strategies which overcome the ethic of competition enshrined within parts of rural Australia. Some subcatchment landcare groups have even raised the issue of competition, favouritism and lack of communication among members of different subgroups (Lane, Dunn and Cregan 1994).

These problems touch only a few of the difficulties community groups face in their drive toward environmental management. Among the complex array of principles such as territoriality, sense of community, empowerment and equity issues and local epistemology discussed in Chapter 7, there are many barriers to collective action. Until group process is better understood, it is possible that locally-based environmental groups have been wasting valuable resources in using inappropriate methods. Blind faith in the solution to these problems is naive. Awareness of the limitations inherent in populist methodologies embraced by the bottom-up approach is the first step toward their resolution. Recognition of the various approaches along the continuum of top-down to bottom-up environmental management is crucial in terms of local decisions based upon knowledge of local conditions.

9.3 Continuum of approaches

The growth in numbers of community-based environmental management groups does not necessarily indicate a concurrent expansion in awareness of environmental degradation by local communities. However, it is indicative of the success of publicity campaigns such as that developed by Landcare Australia Ltd, a limited liability company designed to raise funding for and awareness of land degradation. Landcare groups are typical of other community-based environmental groups in this regard. In the discussion that follows, I have chosen landcare groups to exemplify the experience of other types of local environmental management groups.
Landcare groups' efforts toward sustainable development can be interpreted very differently, depending on whose perspective is being taken into consideration, and along what continuum the groups are being assessed. For example, are they reflecting community experience or do they mirror government policy; are they environmental crusaders or advocates of increased productivity; see Figure 9.1 for an illustration of these dichotomies.

Figure 9.1: Community-based environmental groups fill many functions

<table>
<thead>
<tr>
<th>Environmental conservation</th>
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<tbody>
<tr>
<td>Community action ---------</td>
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<tr>
<td>COMMUNITY BASED ----------</td>
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<tr>
<td>ENVIRONMENTAL GROUPS -----</td>
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<tr>
<td>Government policy -------</td>
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<td>Production ethic --------</td>
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9.3.1 Continuum 1: from community action to government policy

It is critical to distinguish between the value of landcare groups from a government perspective (the rationale for spending public monies to assist them); the reasons individual land users may have for being in a landcare group and the professed aims of the landcare group (Campbell 1992b:13).

The proponents of community action, 'small is beautiful' and populist agendas believe that community-based environmental management as a broad-based social movement will change the face of Australian agriculture through participative processes and bioregional principles. This perspective is strengthened by the convincing argument that rural Australians have to design the future and construct solutions to the many faceted problems of land degradation because there is no choice. Advocates of community-based environmental management as a community
owned, community led revolution in Australian farming systems tout the rise of involvement by women and the increase in ‘transfer’ of agricultural information from one landholder to the next as examples of how this process works at the local level (Campbell 1992a; H. Alexander 1993). There are those who think that these groups succeed in attracting government resources to local problems as self-help mechanisms aimed at increasing social equity and self-determination, and there are others, appearing more cynical and negative who perceive community groups as pawns of government policy (cf. Lockie 1993).

Social theorists who are wary of the vertical integration of agriculture, cognisant of the increase in agri-businesses, and have tracked the trend to conservatism in developed nations believe that community-based environmental groups are just another tool of the state. Proponents of this view proclaim participatory practice as another way for government to devolve and fragment environmental responsibility to local communities. They refer to theories of economic rationalism when pointing to community groups as unwitting victims of the state, powerless to control their destiny when faced with private interests who want access to their lands and markets and deeper problems of structural inequality in the dominant agricultural development paradigm (Furze 1992; Lockie 1993). For those who look upon community-based environmental groups as subtle forms of government policy used to lever some land managers off their land in the name of user pays, it is wise not to get caught up in the naive populism espoused by the ‘community experience’ activists.

9.3.2 Continuum 2: environmental crusade or production ethic?

Landcare groups may be seen as one way of furthering the government’s production policies, through extension services overseen by government officers who are running their own agricultural policy agenda. Members of production-oriented landcare groups plant trees — to protect stock and to mitigate the adverse economic effects of dryland salinity, or add amenity value to farms. These group members visit each others’ properties to assess different production strategies in different locations. They discuss marketing strategies for different crops, talk of the pros and
cons of vertebrate pest management and lament the prohibitive cost of fencing. These landholders perceive that environmental stewardship is too expensive to warrant spending time or money planting trees and prefer to concentrate on increasing local production.

However, to other more idealistic environmental commentators, community-based environmental groups can assist the long term sustainability of Australian agro-ecosystems (Goss and Chatfield 1991; Roberts 1992; H. Alexander 1993). In their view groups foster environmental education and nurture green sentiments (although this may be done covertly since 'many participants, indeed, would not even consider themselves as ardent environmentalists; rather they are citizens "who feel a proprietary concern for the river or resource in jeopardy"' (Dreyfoos 1987:1803 cited in Gardner 1991b:29)). Community group members of this persuasion plant trees — to save the bush. They collect seed — to ensure survival of tree species. They encourage communication among diverse sections of society. They monitor water quality. They visit field study centres to learn about floodplain ecology — because it fits into the big picture. They are the epitome of stewardship groups, acting today in the interests of the environment and of the future of their children who, they hope, will one day thank them for it.

So what are landcare groups about?

Is it soil conservation, good farming, tree planting, wildlife protection, land stewardship, sustainable logging, dune stabilisation, garden composting, mine rehabilitation, farm planning, habitat retention, waste recycling, water quality, land ethics, environmental education, park improvement, catchment planning or land stewardship? (Roberts 1992:3).

Landcare groups can encompass all of these activities, and are capable of sliding anywhere along the continua of conservation to production, or community concern to government policy. There are a number of other continua which these community groups could also intersect; theory — practice, expert data — local knowledge, proactive planning — reactive fire fighting. However, there is insufficient space here to discuss them all. The central issue is that most of these opposites are not mutually
exclusive, and most community groups carry out activities which slide along the entire spectrum of each continuum. To categorise community groups in general as simply touting either end of these seemingly opposing paradigms is too simplistic, despite the attachment any particular group may display. One of the most valuable features of group approaches to sustainability is diversity — in strategy, focus, membership and across time.

9.4 Emerging themes

As the environment movement develops and changes, so too have the beliefs of the day. Emerging themes include a focus on solutions or, at the least, 'do-able' outcomes. At the same time there is increasing pressure to do more with less — as the number of environmental community groups increases. Another emerging theme is the diversity of groups' strategies, approaches and visions for sustainability. But perhaps the most apparent trend is the cry for cooperation, partnership arrangements and a unison of voice — in line with the Brundtland report's plea for sustainable development. On the basis of the evidence provided in this analysis, I believe there is a need for more dialogue and exchange on an equal footing between top-down and bottom-up approaches to sustainable land management. I am not advocating a merger or cooption of the community group with government agencies. Instead, I am suggesting that local decision-makers are in the best possible position to implement productive partnerships when they can gain equal access to resources, opportunities and information from government agencies. Local approaches offer alternative strategies for planting the middle-ground on the basis of increased overlap and cooperation between community and government. But there is more to this type of cooperation than simple compromise, and there are sacrifices to be made on both sides when working toward 'the communicative catchment' (Martin 1991:773).

The current catchcry echoing in departmental hallways suggests that community and government should work together, 'which is a key characteristic of the landcare image, [and] extends beyond local community groups to connote a partnership between the community, government and business' (Campbell 1992b:5). One could be cynical and ask why government and community are working together now when
they haven’t appeared to have had a very productive relationship working on health, education, employment, housing, Aboriginal affairs or any other major facet of human activity in the past (Coombs 1989; Legge 1992). Or have they? Have times changed so much recently that there are productive relationships being established between top-down and bottom-up players in the environment game? There is a growing number of people writing in the field of agriculture and rural development who would argue in the affirmative. This maturing body of literature suggests that people, as part of their local environments, should not only be consulted by governments, they should be active protagonists when creating sustainable alternatives in their region (Scoones and Thompson 1992; Pretty and Chambers 1992). Reconsider Table 9.1 for an overview of the strengths and weaknesses inherent at either top-down or bottom-up scales and for a summary of the integrating links in the middle-ground.

9.5 **Middle-ground approaches**

Recent trends in agricultural research and extension practice have emphasised the need to ‘listen to and learn from the people’ and to make local people active participants in the research and development process (IIED/IDS 1992:3).

In the environment and sustainable development literature, the same emphasis on participatory democracy is apparent (see Chapter 2). This is evidenced in *Agenda 21* (United Nations 1992) and in the Australian National ESD strategy (Commonwealth of Australia 1992). *Caring for the Earth*, released in 1991 and published jointly by the International Union for the Conservation of Nature (IUCN), the United Nations Environment Programme (UNEP) and the World Wide Fund for Nature (WWF), listed community empowerment among its principles for building a sustainable society. The full quote is worthy of citing here.

> Most of the creative and productive activities of individuals or groups take place in communities. Communities and citizen’s groups provide the most readily accessible means for people to take socially valuable action as well as to express their concerns. Properly mandated, empowered and informed, communities can contribute to decisions that affect them and
play an indispensable part in creating a securely-based sustainable society (IUCN/UNEP/WWF 1991:11).

However, in order for government and community to work together, there are a number of problems in the middle-ground which need attention relating to the caveat cited in Chapter 1 that communities are ‘properly mandated, empowered and informed’. Perhaps one of the more serious errors by government planners is their unerring belief in the infallibility of ‘community involvement’ (Wilkinson and Barr 1993). Just because community groups have the opportunity to become involved in environmental management does not mean that there is automatic problem ownership and development of local solutions. In a review of community planning for salinity management, Wilkinson and Barr (1993) make the observation that individual landholders in some cases will not even perceive dryland salinity. Then, in cases where they do perceive a problem requiring action, there is not an automatic link to a change in behaviour — whether that be in a group or individually. Indeed, the link between problem identification, attitudes and behaviour is far from linear and is still hotly debated in the social sciences (Chapter 7). So, for partnership arrangements to be created in the ‘middle-ground’ between community and government approaches, there are a number of potential problems requiring recognition and further discussion.

9.5.1 Problems with the middle-ground

The agricultural environment in all its glory, productive capacity, unexpected dangers and overwhelming complexity is in danger of experiencing further degradation (Lawrence et al 1992; Cocks 1992). Whose problem is that? Whose problem is land degradation, for example? Some would claim that senior government officers within institutional structures are more knowledgeable than local farmers about land degradation problems and methods for resolving them, because they have a detached and ‘more complete’ view of the situation. While recognising the importance attached to this coordination function, it is simply not fair to expect a coordinator operating within the bonds of bureaucracy to know and understand what happens in every community. Nor is it desirable. Centralism and the problems of national coordination have helped to create some of the environmental problems
which community groups are trying to redress today. With the push for central organisation of environmental issues there is an element of the 'false consciousness' argument, prevalent in Marxist doctrine, for scientists who purport to know and understand the intricacies of the real world 'out there' better than the locals because the scientists are standing outside that consciousness when making the judgements (Legge 1992; Schrecker 1994). It is a little like saying: 'I know your reality better than you do and, what is more, you are unable to perceive your hard life because you’re stuck in the trap of poverty and rural decline and can’t see as clearly as I can'. Paternalism was clearly illustrated in Chapter 6 as one of the attitudes of government agencies which constrain the effectiveness of community-based environmental groups. Campbell’s depiction of this attitude would be more humorous if it weren’t so acutely descriptive:

We’ll look after the funds/employ the person/buy the vehicle for you — don’t you worry about that! (Campbell 1994:16).

This point of view was espoused by government officers in this study who believe that the environmental movement is really a very effective (and cheap) way of mobilising a voluntary labour force to carry out actions designed and monitored by government.

From a bottom-up perspective, there are also difficulties in identifying whose problem ‘it’ is, when talking about dryland salinity, soil erosion or water quality. Typically, landcare facilitators working hard for community groups are placed in a very difficult position if they are torn between loyalty to the group and attachment to the government’s mandate by which many keep their job (David Legge, Friends of Participatory Action Research Network, pers comm, November 1992). In the "tiled-drain" example above, while it was deemed an entirely logical and pragmatic proposition by group members, the question as to where the drained water would end up still remained, with the coordinator stuck in the middle. Did he support the interests of group members he worked for and lived among, or did he think of the bigger picture and the problems that salty water would create for others downstream? What could he do when faced with such a problem of divided loyalties
and fragmented subjectivity? At one and the same time he was accountable and loyal to the group who he represented as well as being duty bound to adhere to the position of the government agency who were paying him and whom would disapprove of this practice with the wider catchment in mind. An important role for facilitators is to remind group members of 'the big picture' while at the same time reminding senior government bureaucrats that it is the facilitator who is directly responsive to the local community and who must consult with and reply to their concerns whenever possible.

Environmental problems are being constructed in very different ways depending on whose perspective is being considered. On the one hand, community groups feel that they are faced with serious socio-economic and environmental problems to which government departments are not attending by virtue of their narrow departmental viewpoints. And how could it be otherwise? The structure of the state is, by its very nature, compartmentalised, given that it has to consider a variety of constituencies and manage conflict between them. On the other hand, government departments want to legitimise their activities by proving that communities are accepting responsibility for their own problems and taking the initiative for addressing these at a catchment level. This raises a serious issue which is explained very succinctly by the previous National Landcare Facilitator:

\[
\text{It is simply unfair and totally unrealistic to expect voluntary groups of people, even if there were one hundred thousand active landcare members, to fix land degradation or develop more sustainable farming systems without significant external support — financial, technical, institutional and moral (Campbell 1992b:iii).}
\]

When community groups and government departments get together to work on a project as large and complex as land degradation, top-down and bottom-up approaches differ tremendously. However, in coming to the middle-ground, agreements are required about some very basic issues such as the geographic scale at which these problems can be addressed, the timeframe in which environmental

\[2\] There is an interesting program of research, entitled Reshaping Australian Institutions, being conducted at the Australian National University's Research School of Social Sciences which is currently investigating this topic.
degradation issues require action, the level and type of resources necessary, the legitimacy or credentials of the people who take these tasks on board and decisions as to who takes the initiative. It is conceivable that approaches such as multi-stakeholder fora, environment round tables and convenor policy fora trialed in North America will go a long way toward answering some of these questions.

9.5.2 Examples of the middle-ground

The middle-ground is about communication. In essence it is about the philosophy of ecologically sustainable development which unites conservation and development interests, government and non-government organisations and local with global approaches to improving the quality of life on this planet. However, developing sustainability in practice requires a focus on the communicative process which is rarely a feature of the 'act now think fast' emphasis on outcomes and products. Developing interdisciplinary, practical and flexible approaches to sustainability requires 'looser, task-oriented management structures' (Carley and Christie 1992:154). Whether they are called collaborative policy fora, facilitated policy dialogues, cooperative problem-solving techniques, environment round tables (Jacobs and Sadler n.d; Priscoli 1988; Howlett 1990), people-oriented techniques (Priscoli 1989), land-use bargaining teams (McDonald 1989), or action centred networks (Carley and Christie 1992), I believe they all require a local territorial contextual base and an emphasis on practical action within small scale units characterised by:

♦ flexibility of membership
♦ an ability to respond quickly
♦ experiential learning styles
♦ non-hierarchical organisational frameworks
♦ horizontal and vertical links to other networks
♦ an openness to restructuring, and
♦ a commitment to practical tasks.

The specificity of the task gives a measure of credibility to the effort of integration, while confining the initial effort to the stated task can disarm potential critics who may be
threatened by the idea of a parallel organisation to the traditional bureaucracy (Carley and Christie 1992:159).

The middle-ground could exemplify the best of community and government approaches to environmental management. Because, after all ‘the basic units of society are not departments, committees, and companies, but rather individual thinking and feeling human beings’ (Trzyna 1990:10). The interactions of community groups with government as illustrated in this study typify middle-ground approaches (the Mitchell River group is a particularly good example of collaboration). Middle-ground models will flourish as long as attention is paid to the limitations and participatory nature of such approaches, and the rules guiding the principles and practice of group function and government policy. However, it should be reiterated that general recipes will not work (Wilkinson and Barr 1993). Regional differences based on consideration of sense of community, sense of place, local epistemology and empowerment practice must be reviewed. In short, more attention should be paid to participatory practice in terms of who participates, whose knowledge counts and who should be involved in setting agendas in the middle-ground.

9.5.3 **Principles of the middle-ground**

In the sense that there are no easy answers in post-modern society and that Australians must be prepared to invent our own solutions, the questions veer away from ‘whose problem is it?’, ‘how do you fix environmental degradation?’ and ‘how do you know if it is fixed?’, toward consideration of how to establish a middle-ground based upon principles of interaction, negotiation and mediation of common goals and conflicting interests. By the same token, if these questions are ignored altogether then ‘sustainable damage’ (Gammage 1994) will continue to be inflicted upon our environments even if we feel good about it. I believe that the most important principle for top-down and bottom-up approaches alike is dialogue. To work together and recognise the strengths inherent in each approach requires an organised process of discussion and exchange. However, there are some principles guiding decisions as to who participates in establishing the dialogue, and ‘when and
where participation counts' which reflect a meta-level process concerned with equity and the distribution of power in middle-ground models (Syme 1992).

The question of who participates should require mandatory attention. As I have argued elsewhere, representative systems of democracy are inequitable in this process. Experts with technical knowledge who represent their department, industry or agency are missing the underlying political point: 'even defining the question to be discussed by a collaborative group usually requires sorting out basic choices about social values' (Trzyna 1990:12). Toward that end, nobody is any more or less expert than anyone else. Participatory democratic systems of decision-making are much better for middle-ground models — as long as they are open and 'that the terms of the debate be understood by all parties and that they participate with equal status' (Craig 1982:232). Some would argue that this is a 'big ask', however, I maintain that the public involvement of citizens affected by environmental, social and economic decisions in local communities is vital. Before even walking onto the middle-ground, there are some issues concerning the rules and objectives of the game which need resolution. To summarise the discussion of effective public involvement elaborated in Chapter 2, decisions must be made about:

♦ which public are involved? (not yet resolved for the Mitchell River group)
♦ whose problem is being addressed? (of concern in the Water Watchers group)
♦ who pays the cost of involvement? (causing conflict in the Downside Landcare group)
♦ what is the object of public involvement? (requiring clarification in all three groups).

If there is no general consensus about desired outcomes, there may be no point in proceeding (Trzyna 1990:12).

If Australians are serious about addressing environmental degradation problems, negotiation and mediation of both the process and content of middle-ground approaches will become increasingly important. Dialogue and exchange are essential to this process and can be enacted through support at the community level from state
and federal governments. Actual places where land users and bureaucrats can meet face to face and work on programs of mutual benefit to local catchments are integral to defining the middle-ground. I suggest that such opportunities exist if one examines the concept of the Community Catchment Centre in Western Australia — a model with great potential for cooperative environmental management. Water Watchers, the Mitchell River Watershed Management Working Group and the Downside Landcare group all met within specific local places, relied upon a blend of local and regional expertise and engaged in collective action, albeit to varying degrees. Perhaps if other groups were encouraged to adopt middle-ground management strategies through the support of organisations like the Community Catchment Centre, more environmental management would be translated into on-ground change. The cooperative management model is one such middle-ground ‘solution’ on trial internationally.

9.6 Cooperative management in the middle-ground

Cooperative management, (also known as co-management) has served as an example of what can be done toward environmental stewardship in North America where indigenous peoples have developed cooperative agreements to share common property resources with governments and commercial users of that resource. Literature on the subject is recent and largely concerned with fisheries management (for example, see the articles by Pinkerton, McCay, Dale and Berkes in Evelyn Pinkerton’s (1989) edited volume on this topic *Co-operative management of local fisheries*). However, as a public policy tool it can be transposed quite readily into other environmental management contexts and across a range of industries and organisations. The joint management of Kakadu and Uluru National Parks by indigenous and other Australians is a good illustration of cooperative management occurring within an Australian context (Central Land Council, Pitjantjatjara Council and Mutitjulu Community 1991; Uluru–Kata Tjuta Board of Management and the Australian National Parks and Wildlife Service 1991).

Aboriginal owners (or their representatives) and the relevant national or Territory national parks and conservation authority form Boards of Management which share key decision-making including day-to-day management of the parks, ranger
employment and training policies, environmental and cultural conservation policies and the overall content of the plan of management. (Ross, Young and Liddle 1994:31)

Co-management with indigenous users is also occurring in wildlife management within a Canadian context (Osherenko 1988). Cooperative management is defined as:

an institutional arrangement in which government agencies with jurisdiction over resources and user groups enter into an agreement covering a specific geographic region and spelling out:

1. a system of rights and obligations for those interested in the resource
2. a collection of rules indicating actions that subjects are expected to take under various circumstances, and
3. procedures for making collective decisions affecting the interests of government actors, user organisations and individual users (Osherenko 1988:13).

Co-management agreements or regimes as defined above are contractual relationships which in North America have typically been established for single, migratory species such as salmon, geese and caribou (Osherenko 1988; Pinkerton 1989; Ross, Young and Liddle 1994). There is also some potential for the implementation of co-management arrangements which are multi-issue and include multiple stakeholders such as the 'Timber, Fish, Wildlife Agreement' in Washington State, USA (North West Indian Fisheries Commission 1993). However, as Pinkerton (1989) warns, co-management agreements covering large geographic areas and including many stakeholders are more likely to be successful when ‘there are opportunities for creative, informal problem-solving among stakeholders (possibly without the government present)’ (Pinkerton 1989:28). Co-management agreements have been established where there are indications of worsening environmental problems and policy solutions which promise to help balance power in decision-making (Cohen 1989). Co-management agreements substantially alter the nature of relationships among stakeholders and reward cooperation rather than competition perhaps because they clearly delineate roles, rights and responsibilities. The type of
CHAPTER NINE — Bottom-up meets top-down

coopertive management based on legal and political themes emanating from a contractual or negotiated agreement differs from the more general principles of cooperative management operating informally in the context of middle-ground models. These goals or principles of cooperative management include more appropriate, efficient and equitable management of resources and can lead to decentralised decision-making, conflict resolution, broad-ranging community development efforts, better cooperation and more trust between government and resource users (Pinkerton 1989). These echo the goals and visions underlying several of the community groups analysed in this study.

Cooperative management processes can be seen most obviously in the way that Mitchell River group members (both community-based and government) are collaborating over the release of the rubber vine rust (see Appendix 5 for details). The Queensland Lands Department have conducted much research on the rust at the Tropical Weeds Research Centre in Charters Towers. In conjunction with the Department of Primary Industries as members of the Mitchell River group, scientists are planning to release the defoliant in strategic locations along the Mitchell River. Graziers and Aborigines will determine the placement of infected plants in recognition of their local knowledge of the area. Hopefully, that involvement will expand to include data analysis when it comes time to investigate how effective the take-up of the rust. This echoes the type of cooperative management espoused by McCay in her study of a clam revitalisation project (1989) which 'refers not only to cooperation between the state and others in managing the resource, but also to cooperation among scientists of different institutions and agencies and between specialists, shellfishermen, and bureaucrats' (McCay 1989:103).

Cooperative management in the Mitchell River group is also occurring through a developing commitment on behalf of both government and community members to preserve the health of the catchment and to embark on future planning and enhancement of watershed resources. These decisions emerged through a process of involving all stakeholders in cooperative arrangements despite their radically different educational and cultural backgrounds. In the face of, and perhaps in spite of, the obvious cultural and linguistic divisions which separate most Aborigines from
the rest of Australian society, within the Mitchell River group there is general acceptance of the unique contribution from the Kowanyama Aboriginal Community Council. Indeed, it is precisely because there is recognition and respect for the diversity of interests represented in the group, and through the voluntary involvement of individuals' skills in group activities, that cooperative relationships are formed. Other conditions for cooperative management are discussed below.

**9.6.1 Conditions for cooperative management**

Building on the co-management literature and based on examples and evidence presented in Chapter 7, I suggest that cooperative management arrangements are more likely to succeed if attention is paid to:

- Collaboration between local, historical and traditional forms of knowledge and agricultural management science;

This is true not only for Aboriginal and Torres Strait Islander communities using traditional ecological knowledge systems, it is also true for farmers and graziers who have established historic and traditional systems of knowledge premised on a commitment to learning by doing, or 'action learning'. It is necessary to take local ways of knowing into account because they incorporate local history and local information based on day to day experiences, and to combine this with more formal knowledge. The end result is more comprehensive that either system alone.

- Definition of a peculiar local culture which is separate and distinct from industrial or national society;

small scale, localized segments of industrialized societies can also conserve resources, under the right conditions. Probably this is more likely to happen if the society is "traditional" in the sense of having a long history in the area and a local culture which generates norms and values independently from national culture and if boundary definition is clearly developed (Rettig, Berkes and Pinkerton 1989:282).
Commitment to moving beyond arguments over rights and regulations to the generation of alternate solutions and conflict resolution.

If communities and governments are to share decision-making and cooperate in natural resource management, there needs to be a change in the way that committees and groups are established away from representative democracy toward more refined participatory democracy. I do not purport to know what those systems might entail, and here is not the place to explore the options. However, when representatives come to the negotiation table ‘armed to the teeth’ with statements outlining their organisations’ positions on issues, the process is not likely to lead to co-management. Instead, groups of people who are committed to investigating the issues and exploring all alternatives are more likely to resolve their differences through mediation.

Facilitation of group dynamics and attention to open administrative arrangements.

Community groups must be aware of the need to create opportunities for informal discussion; establish clear goals and strategies for achieving them; decide upon an appropriate and transparent leadership style; enhance members’ opportunities for training and education; establish the right balance of self-reliance and dependence on outside resources; practice clear verbal and written communication; prepare evaluation strategies in advance, and recognise and celebrate when groups meet their goals.

In addition, government and community approaches to environmental management should recognise the threats and opportunities inherent in any local context when seeking complementarity. Group members must have a clear idea of their group’s identity and what it is achieving with respect to local conditions and relationships. If cooperative management is an effective means of accounting for the complexity in post-modern environments discussed in Chapter 2, different kinds of top-down—bottom-up relationships are necessary. Evelyn Pinkerton could have been
writing specifically about the community groups analysed in this research when she said:

Co-management is not only about new institutions, but more fundamentally about the new relationships resulting from them. Institutions and legal arrangement can only permit, support and create incentives for new relationships: It is the new relationships which generate the communication, trust and willingness to risk innovation which make the benefits of co-management actually materialize (Pinkerton 1989:8).

9.7 Summary

The problems of working toward the middle-ground are tremendous. Even when community groups and governments have made a commitment to work together and have addressed some of the problems identified above, there are other difficulties. After having decided, for example, on whose problem environmental degradation is and who participates in its resolution, there are other questions as to who pays for it and how to evaluate it. In the current climate of economic rationality, it is very appealing to dwell upon questions of accountability, evaluation and monitoring. Despite the statement that: ‘our problem is not one of economics, but one of estranged values, where our economics is divorced from ethics’ (Nozick 1992:xi), I don’t believe that this argument is one that government financial advisers and auditors of public spending are ready to hear yet. There have been too many changes to environmental management frameworks over too short a space of time. Not least of these changes is a recognition that community-based environmental management groups are providing the whole of society with a means of addressing issues of environmental degradation (Ryan and Siepen 1992; Siepen and Carter 1992). The nature of some of the more fundamental alterations are illustrated in Table 9.2.

Middle-ground environmental management implies an integrated approach to natural resource issues, but it goes deeper than merely throwing all the necessary ingredients together and trusting that group process will look after itself. Middle-ground management also acts to bridge private–public sector approaches and links
Table 9.2: Local environmental management: changing principles for action

<table>
<thead>
<tr>
<th>Changes from</th>
<th>Changes to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short term focus, politically-driven</td>
<td>Long-term focus, defined by whole community</td>
</tr>
<tr>
<td>Perceived as technical problem requiring technical solutions</td>
<td>Perceived as symptomatic of wider socio-economic and biophysical problems</td>
</tr>
<tr>
<td>Extension science engaged to educate the people about the environment</td>
<td>Action research approach used for government and community to learn together</td>
</tr>
<tr>
<td>Environmental 'science' is a male dominated issue</td>
<td>Environmental 'studies' concern everyone</td>
</tr>
<tr>
<td>Outcome-driven, goal-oriented</td>
<td>Emphasis placed equally on process and outcome, means and ends</td>
</tr>
<tr>
<td>Measurements of success evaluated in terms of on-ground change quantifiable at the bottom of the catchment.</td>
<td>Success measured in less quantifiable terms, recognition of less tangible indicators of success.</td>
</tr>
</tbody>
</table>

the individual household with the wider society through community groups (Cock 1992). Environmental management based on a middle-ground approach is not only transdisciplinary, but cuts across departmental barriers and frequently attempts the seldom traversed institutional divide of government–community relations. Finally, local environmental groups are approaching the often espoused political slogan ‘community and government working together’ not through blindly adopting government policy, but through a process of transactive planning (Friedmann 1973, 1979) communication and cooperative management.
Conclusions
A model of the middle-ground which integrates the research findings introduces a conceptual framework to consolidate the study. This chapter then summarises the research findings and reflects on the process of the research through an analysis of each of the study's aims. Lastly, I metaphorically 're-visit' each case study in order to bring the reader up to date with news and events that have occurred since completing fieldwork at each site. Despite the cautionary words of Harry Wolcott (1990) who warns that conclusions have no place in qualitative research for fear of adding grand flourishes which go beyond the boundaries of the data presented, or detract from the quality of description, this chapter completes the research endeavour started three years ago.

10.1 Model of the middle-ground

The purpose of this model of the middle-ground (Figure 10.1) is to depict the interactive nature of relationships between the principles, profile, processes and products of both top-down and bottom-up environmental management styles in this study, and illustrate the potential of the middle-ground. It synthesises the results of Chapters 4–8 and builds specifically on Chapter 9 in order to demonstrate that there are links between the top-down and bottom-up which are under-utilised. The 'data' contained within each of the categories are logically connected and internally consistent with findings in previous chapters. The model is an ideal of top-down and bottom-up approaches to environmental management in the sense that it can be taken apart, reconstructed and moulded to a specific geographic context or to the requirements of the institutions involved. The model offers a new way of conceptualising community-based environmental management, and provides a way forward in analysing and improving community involvement in environmental management. However, like other models, it is simplistic in the sense that the relative importance of each category is context dependent. For example, while each group does have a 'sense of community', the extent to which that affects that community group's sense of empowerment differs from group to group as evidenced in Chapter 7.
Figure 10.1: Top-down and bottom-up work toward the middle-ground
The greatest asset of a model of this kind is its potential for offering a new way of thinking about or conceptualising the issues. On the other hand, it is a liability if interpreted within an overly reductionist methodological framework. The hour-glass shape of the model does reflect a capacity for movement and flow, but should not be interpreted as any attempt to reinforce the hierarchical relationships implicit within its vertical orientation. Rather than perceiving government agencies as the benevolent patrons of sustainability, issuing resources and advice from a position ‘on high’ of perfect knowledge and informed democracy, one can conceive of a government system which thrives on the grass-roots input of localised communities. Or, to put it the other way around; rather than thinking of community groups as merely the passive instruments through which government environmental policy is enacted from above, one can turn the hour-glass upside down and think of powerful, thriving and energetic community groups operating even more effectively when government agencies can offer support such as advice and resources specifically tailored to local needs. The dashed line separating the middle-ground from both the top-down and bottom-up reinforces the claim that both ends can (and should) move back and forth to the middle and that neither end is static.

The potential of this model of environmental management is dependent on cooperative relationships between top-down and bottom-up approaches. Cooperative management of local environments is both a principle and a practice worth elaborating with regard to middle-ground structures of the kind detailed above.

10.1.1 The middle-ground and the model

Chapter 9 discussed the key themes of middle-ground environmental management. They are premised upon:

- equality of voice and horizontal and vertical links,
- a commitment to seeking solutions and openness to new ideas, and
- flexibility, responsiveness and pragmatism.

These themes will be discussed further below in relation to the model of the middle-ground. But first it is important to stress that cooperation in the middle-ground does
not necessarily equal compromise between the top-down and bottom-up. Nor does it equate to the 'lowest common denominator' of government and community-based environmental management. As expressed in Chapter 9, there is more of a continuum of approaches some of which will be more appropriate in some circumstances than others. Although compromise is one approach, there is no call to shy away from conflict over important principles, and sometimes mediation and arbitration may be required. Communication, not compromise is a more effective management tool in the middle-ground:

Formulating value positions that are broad and inclusive is a delicate task; it requires considerable diplomacy and an exchange of views that does not attribute dogmatic authority to anyone (Rosenau 1992:146).

What is required is more communication and better communication between top-down and bottom-up environmental managers. ‘Narrow’ science communication efforts as well as broad ones are required in order to appeal to public and specialised audiences. ‘New-age’ science communicators are particularly good at raising public awareness and the stranger the messenger, the wider the appeal, or, ‘the broader the flakier, and the flakier the tastier’ (pers comm Duncan Macpherson, CSIRO Division of Water Resources, June 1994). Community-based environmental management would benefit from local decision-support systems which provide people with the means of making their own choices, the grounds for making informed choices and the institutional arrangements which encourage public involvement in making choices:

Can institutions be designed that would be conducive to a genuinely inclusive politics? How can they avoid favouring certain kinds of participants, reflecting a situated and privileged view of the way the world works? Perhaps more importantly, will those promising expanded opportunities for public participation be concerned about selective or biased inclusiveness? (Schrecker 1994:36)

Middle-ground approaches are examples of such institutions, but are doomed to failure if they opt for representative systems of environmental management aimed
only at achieving 'balanced inclusiveness'. I believe that it is through the creation of new ways of acting politically and new spaces for political action (Walker 1988) that the situated and diverse subject positions of the poor, marginalised, indigenous and other minorities will be empowered to contribute. The middle ground, I think, should be characterised by post-modern political action in line with the new social movements whose goal is 'empowering clients/consumers/citizens in lifeworld decolonization struggles while disempowering technocratic experts in everyday life and undercutting their enclaves of expertise' (Luke 1989:235). Or, as Rosenau claims, post-modernists aim 'at arousing aspiration, raising consciousness, exploring the politics of identity, and opening up opportunities for those who are marginal' (Rosenau 1992:147).

The middle-ground would become more real than apparent if greater attention were paid by both top-down and bottom-up environmental managers to commitment, equality and pragmatism. A commitment to stay in the process, while at the same time remaining open to new ideas is important for middle-ground environmental management. Based on a recognition and respect for the principles of both governments and communities, commitment to principles such as a sense of community and freedom of expression may appear to be diametrically opposed, but in practice reflect a concern for both the needs of the many and the needs of the few. Moving into the centre column of the model, equality of voice reflected in a top-down profile which is mirrored in the bottom-up can result in indigenous people being economists, children being teachers, women being ecologists and left-wing political supporters working alongside advocates of right-wing philosophies. In other words, middle-ground environmental managers may represent a variety of ideological positions and interests while at the same time engaging in issue-specific decisions relating to environmental stewardship. Lastly, pragmatism in processes and products at either end of the top-down to bottom-up continuum can result in integrated efforts, negotiated outcomes and demonstrable achievements. In this category, it is important to note that resolving conflict is just as important as planting trees for community groups. Concurrently, legislation does not assume any greater importance than consultation on behalf of government agencies engaged in producing middle-ground 'solutions'.
In terms of future research in this field, there are still many questions to be answered about how middle-ground models relate to community and government approaches to environmental management. For example:

♦ Where do middle-ground models fit into the current move toward regionalisation and structural adjustment?
♦ What types of middle-ground models currently exist in rural Australia? How can they be better coordinated?
♦ What are the information and resource requirements of middle-ground models? How are these currently met? To whom should these resources be targeted?

10.2 Research findings

Community-based environmental groups are diverse in method, resources and goals. Depending on the methods used, the resources available, the opportunities recognised and the goals to which they aspire, groups will be more or less successful. But there must always be room for reflection, and time to look critically at the partnerships groups are entering into, in order to be wary of naive enthusiasm for cooperation with government, industry and research organisations. Government bureaucracies must be prepared to accept community groups as equal partners and discuss common plans for creating a more sustainable society. At the same time, community groups should drop the facade of participation and take up the challenge of really involving whole sectors of society — not just affected landholders — in learning the way forward. For if top-down and bottom-up approaches to environmental management do not engage in real dialogue, community involvement in the environment will end up as another platitude which does little to contribute to building a more sustainable future.

From the analysis in Chapters 7, 8, and 9, there are two findings of major importance.
There are no universal answers to local environmental problems. Given the complexities and uncertainties of unsustainable environments, local attempts to find local solutions are not just a current trend, but crucial to establishing management regimes that are effective in particular contexts.

Community groups and government agencies must embark on a course of middle-ground environmentalism and encourage cooperative management of local places. This necessitates open dialogue and exchange to allow communication in planning, and action toward ‘solving’ local environmental problems.

In one sense, the whole process of this research has been one of reflection, of looking back. Instead of starting out with a theory which was stated as an hypothesis, was applied to some data and enabled a definite result, this study was completed in reverse order. First, data were collected and analysed, after that a conceptual framework was developed, the literature was consulted and only then were a set of principles established which arose from the data and in turn helped formulate a model encapsulating the problem at the end of the process. These principles were an emergent property of the data collected and were not derived from an ‘a priori’ imposed theoretical framework. Nevertheless, the data collected do reflect an intuitive and implicit rationale which underpinned this research: that neither community groups nor government agencies alone can undertake local environmental management. In this sense, the thesis of this dissertation has been tested and found to remain true to the principles identified within the body of this research. It is useful here to return to the research aims set out in Chapter 1.

10.2.1 Primary research findings

The first aim of this research was to understand the processes and principles by which community groups work toward environmental management.

Analysis of a range of qualitative data collected through interviews, focus groups and observation has resulted in the generation of both individual and group processes relating to group dynamics. With reference to the former, it is especially interesting to note that there are many reasons which motivate individuals to join existing
community groups (Figure 4.6). The effort required to form a group is also considerable. Group formation reflects a consensus of opinion about the severity of the problem as well as the extent of group cohesion or sense of community. In contrast, factors which restrict group membership have to do with over-commitment and poor group process or perceived cliques. Interestingly, government officers were not as concerned about over-commitment in community groups as they were with group cliques and unfair group processes restricting individual membership (see Figures 4.8a and 4.8b). Another difference between government officers and community members was raised in relation to the skills and attributes necessary in individual members for community groups to be effective. Government officers tended to emphasise the importance of skills over attributes, while members held the opposite view (Figure 4.9).

Group processes such as leadership, conflict resolution, decision-making, representativeness, education and training, membership (diversity and totals), goal-setting and project management were all important to varying degrees across the three case studies (see Table 5.15). Critical to the function of all three groups was an emphasis on practical action and projects leading to defined outcomes and measurable achievements. Whether this has come about as a result of government pressure to see ‘runs on the board’, or is a fundamental property of successful group establishment cannot be answered by this study. Research which emphasises ‘runs on the board’, or on-ground environmental change to the exclusion of more process-oriented group dynamics runs the risk of overlooking outcomes such as local organisational capacity for discussion or cooperative environmental management. It is like not seeing the wood for the trees; if it were not for groups such as the Mitchell River Watershed Management Working Group who have made a commitment to undertake environmental stewardship of their catchment through cooperation and negotiation, there would be even less potential for future results. It is imperative here to learn from criticism of Aboriginal regional planning and development efforts:

Many of the criticisms have some foundation. The relationships upon which plan development and implementation depend are in a state of flux between conflict
and cooperation. What they fail to acknowledge, though, is that planning is a gradual and slow process. The array of supports which planning requires are not yet in place. Time and patience, authority and resources are required to develop a functioning process and useable products (Wolfe 1993b:11).

Principles or central themes underlying group process which relate to local environmental management were identified as a sense of community, a sense of place, a local epistemology and empowerment. In contrast to much of the 'sense of community' literature (Heller 1989, 1990; Linney 1990), this study found that community groups' attachment to place is an important principle of community-based environmental management. Without a shared history or emotional attachment to a geographic place, it seemed that group members had less sense of membership or belonging to a group. More research into the relationship between sense of place and sense of community is warranted here in order to fully understand some of the complexities implicit in this connection. Local ways of deconstructing and reconstructing knowledge are also important for community involvement in environmental management. It was interesting to explore the relationship between awareness and recognition of environmental problems within community groups, and to understand how group members build on local knowledge in their efforts to act collectively. The fourth principle derived from this research was empowerment as it related to equity across gender, class and race, as well as to self-determination and self-reliance. Although the study was unable to explore the detail of many of the political and economic implications of group membership, more research in this field would, I believe, yield some interesting results from a post-structuralist or feminist perspective.

The second aim of this study was to analyse the nature and role of government intervention in community-based environmental management.

It is striking to note the absence of any broad scale environmental policy context which integrates community involvement across the states. Different state government departments devised slightly different policies for community involvement relating to water quality monitoring and catchment management. The
status of landcare as a substantial federal initiative stemmed from the original agreement between NFF and ACF. In terms of the profile of government agencies in local environmental management, Commonwealth funding was not always recognised at community level, even when facilitators’ salaries were financed from federal coffers, but the provision of facilitators with resources from outside the community was lauded by all three groups. Facilitation was perhaps one of the more important ways in which government agencies supported community groups. However, it is vital that the facilitators themselves are well supported. Given the difficult and shifting roles they play between government representative and community member, provision of information, resources, back-up and opportunities for in-house education and training are imperative for these people so they can avoid the pitfalls of over-commitment and enjoy constructive relationships with all their peers. Processes which underlie government practice of local environmental management include resourcing, advising/informing, facilitating, consulting, and regulating. The findings of this study are significant in terms of the implications for cooperative management regarding public policy on community involvement in environmental issues.

The third aim of this research was to construct a model of the interaction between top-down and bottom-up environmental management styles.

This is discussed above and requires no further explanation here. However, it should be noted that a future study of middle-ground models may benefit from the use of more social psychology and constructivist theories to step further ‘into the shoes’ of both community and governmental approaches to environmental management in order to understand how each considers its roles and responsibilities in this area. It has also contributed indirectly to the understanding of the role for rural people’s knowledge to complement and extend that of government officers in environmental policy.
10.2.1 Secondary research findings

The fourth research aim was to illustrate the need for an interdisciplinary methodology in community-based environmental studies.

In relation to 'trans-disciplinarity', this study has drawn from a range of disciplinary approaches and has synthesised these with the three case study findings to produce a coherent set of principles applied to community-based environmental management. On their own, none of the insights taken from each discipline would "prove" anything, 'any more than the individual pencil strokes compose an entire picture; taken all together, however, they have the power to present a vivid, convincing, and well-supported view of the work' (Toulmin et al 1984:366). The study was premised upon a commitment to both practical and theoretical approaches to research and has, I believe, achieved a good balance in that regard. The use of 'grounded theory' has enabled careful investigation of community and government approaches to environmental management which in turn has permitted generalisation of principles on the basis of the processes and practices observed in-situ. The three case studies chosen were not intended to be representative, but rather as sources of insight and understanding of environmental management to illuminate this complex phenomenon. The cases studied achieved this aim.

The opportunity to undertake fieldwork with community groups engaged in environmental management has necessitated a review of community development literature which complemented my experience of the practice of community development. The experience of working within the environmental arena has been a highlight of this study necessitating a ‘rethink’ of my own environmental praxis as well as a review of national and global environmental issues. The ability to do this within the Centre for Resource and Environmental Studies has been both invigorating and thought provoking. And the opportunity to ‘experiment’ with theories and disciplines so diverse in origin as post-modernism to community psychology has been both challenging and rewarding. As noted in Chapters 2 and 3, the increasingly pluralistic nature of post-modern society necessitates a range of methodological approaches to an increasingly complex environment. As Geertz so eloquently summarises:
Grand rubrics like "Natural Science", "Biological Science", "Social Science", and "The Humanities" have their uses in organising curricula, in sorting scholars into cliques and professional communities, and in distinguishing broad traditions of intellectual life... But when these rubrics are taken to be a borders-and-territories map of modern intellectual life, or worse, a Linnaean catalogue into which to classify scholarly species, they merely block from view what is really going on out there where men and women are thinking about things and writing down what it is they think (Geertz 1983:7).

The fifth aim of this study was to make the research methodology explicit through the development of a philosophical framework for and methodological critique of the unfolding process.

As noted in Chapters 1 and 3, it was important to expose the ‘seams’ of the research methodology because it was not based in one discipline or research paradigm. Instead it drew from conventional and alternative research paradigms and from many different disciplines in an attempt to understand the diversity, complexity and uncertainty of the topic under investigation. Toward the end of the research process, I perceived a lack of fit between paradigmatic approaches to data collection and analysis. Whilst advocating the use of interpretivist epistemology, at the same time I was conscious that I had set out to analyse three community groups (who did not ask for my involvement, merely condoned it), using a standard approach to each case study (despite there being differences between the membership of each). This is surely based in old paradigm, experimental science. However, I also recognised that this type of study requires a balanced approach drawing from a variety of paradigmatic approaches to the topic. It required old paradigm approaches to provide rigour and structure to the argument and to offer some appeasement to the critics and sceptics of community-based approaches. It also required new paradigm approaches to provide a holistic perspective and a more suitable methodology for the task at hand, based upon a recognition of the importance of participatory practice and constructivist theories.
Through acknowledging differences in paradigmatic inquiry, researchers have begun to perceive that different approaches to research do not just entail a difference in method, but ‘rest on and express different ideologies that implicate different political arrangements and relationships’ among the researcher/s and the researched (Robottom and Hart 1993b:603). In hindsight, my perception of a lack of fit between these two schools was invalid. It is more like a continuum of research styles in which both ends of the research spectrum can be used simultaneously when necessary. After all, if university education is branching out and embracing some post-modernist design, students should not be expected to limit themselves to a few standard procedures of inquiry.

With increasing insight into the great array of data, and more literature to consult in order to support and help explain these observations, I became less confident. The more I read, the more there was to read, leading me to mistrust my own judgement and insight into the topic. The more there was to read, the more I revered other peoples’ endeavours with regard to any one topic. However, I gained confidence in the realisation that learning from other peoples’ intellectual property is part of the process of knowledge construction. I also took time to appreciate that no-one can be omniscient when located within an interpretivist paradigm. The goal of increased understanding was not so much an attempt to tell ‘the one true story’ as it was to shed light on the issues which I believed were important from my perspective — standing alongside rural people in their quest for sustainable environmental management. The principles drawn out of each case study are based upon my unique interpretation of the ‘data’, and although the method may be repeated by other researchers, their skills, attitudes and values would enable them to draw different conclusions from mine. The value of the research for me lay in its cross-disciplinary analysis and the strength of empirical observation derived from first hand experiences with real environmental problems faced by people in their own communities. To paraphrase Clifford Geertz, the process of embarking upon this research over the past three years has provided me with the time to think about things and the resources to write down what I think.
The case-study method was critical to the research methodology, and critical to the case-studies were the interviewees. As mentioned in Chapter 3, both the quantity and quality of the data used in this study depended upon my gaining the trust and building a rapport with interviewees. My gender, experience and background in a farming family all helped build that rapport. Much of this study was based on direct observation and reflection about community group members, their beliefs, their aspirations, their concerns and their interactions with government agencies. Many interviewees became ‘collaborators in spirit’, but although the traditional distinction between researcher and researched was blurred, to be a ‘real collaborator’ would have necessitated a very different style of research and a much longer time commitment.

One of the main ways in which the research philosophy was made explicit was through the working papers given to every interviewee after completion of each case study. These were not simply a mechanism to provide prompt feedback to the community groups in question. Feedback from the groups was always positive and helped to clarify my ideas by holding up a mirror to the principles and themes emanating from the fieldwork. The working papers also served as three intermediary points at which to reflect upon the process of this research, as it unfolded. The process of critically reflecting upon the method and results of the first case study led to some minor adjustments in the way in which the second case study was conducted. That in turn provided guidance for the third case study in a critical spiral of action, reflection and reaction. The results of this tiered system of observation, reflection and analysis have culminated in the production of this dissertation.

My last research aim was to make a substantive contribution to the theory and practice of community-based environmental management.

Leaving the meta-research agenda aside, one should always return to answer the inevitable ‘so what?’ question of qualitative or descriptive research, or from the perspective of someone on the ground: ‘a qualitative researcher’s efforts to convey non-judgemental objectivity is likely to be perceived instead as a typical academic
To avoid being tarnished with this brush, one of the main ways in which the research outcomes were practical and accessible was through the working papers mentioned above. I believe that the principles generated in these working papers can practically inform the ways in which both community groups and government agencies relate to each other in managing local environments. The grounds for arguing a move toward the middle-ground are based in 'real-life' case studies which are both rich and complex and carry rather more conviction than arguments based on 'formally rigorous, surgically simple or mathematically elegant grounds' (Toulmin et al 1984: 360).

Further research is necessary in order to 'test' the model constructed and to evaluate the practice of community groups and government agencies engaged in environmental management. However, the fact that more research is required only serves to reinforce the need for a deeper understanding about how something works and why it works before measuring its success. Being mindful of the practitioners and policy-makers who want and need results from studies such as this, recommendations arising from this research will be written up separately and tailored to more specific audiences. With direct relevance to this study, Wolcott writes:

Most certainly we can do a better job of inquiring systematically into the kind of help that practitioners, administrators, and perhaps even those policy-makers we are forever enjoining to heed our work really want (Wolcott 1990:61).

Based on my personal experience and on the theories of participation, post-modernism, action research and social construction, which I have uncovered over the last three years, I have learned a great deal in the process of conducting this research. The extent to which it makes a substantive contribution to community-based environmental management is yet to be assessed.
10.3 Grass-roots and green tape: community-based environmental management

The World Conservation Strategy states that one of the key principles for building a sustainable society is to enable communities and community groups to manage their local environments:

Most of the creative and productive activities of individuals or groups take place in communities. Communities and citizens' groups provide the most readily accessible means for people to take socially valuable action as well as to express their concerns. Properly mandated, empowered and informed, communities can contribute to decisions that affect them and play an indispensable part in creating a securely based sustainable society (IUCN/UNEP/WWF 1991:11).

In conclusion, I believe that this remains an important criterion for sustainability, providing that these groups have the necessary financial, educational, informational and facilitatory support to manage their local environments. Community groups are able to undertake environmental management projects when they are provided with proper legal mandates, consultative processes, access to information and sufficient resources. In addition to these conditions, I would add that in order for community groups to act as constituents for their environments, they need the legitimacy of a state sanctioned vision of sustainability, an educational framework which clearly supports community-based environmental learning and a baseline of environmental indicators by which to assess their biophysical impacts. However, these are necessary but not sufficient principles with which to build sustainable environments. A micro-scale focus is also required, one which is place-centred and includes a sense of community, opportunities for empowerment and attention to local epistemologies. In addition, middle-ground processes are called for, requiring conflict resolution skills, participatory practice and a commitment to embark on a course of action-learning.

In practice, the mix of centralised versus dispersed responsibility for the environment will always be contingent upon the issue and context. From the top-down in Australia, both state and national governments have been major players in
developing the National Strategy for Ecologically Sustainable Development (Commonwealth of Australia 1992), involving industry and NGOs. There has also been considerable emphasis placed on the 1992 Intergovernmental Agreement on the Environment which establishes principles for coordinating environmental policies among all three tiers of government; federal, state and local. Despite the good intentions, it is widely acknowledged that sustainable development is rather better in theory than it is in practice (Redclift 1987; Pearce et al 1990).

Returning to paraphrase Roberts' early citation in Chapter 1, the world is still watching to see if community-based environmental management groups are working to help combat environmental degradation. And the rural crisis is still a very big problem to which many people are seeking solutions. Community-based environmental groups are not the answer, but they are a good way of addressing problems of unsustainable development, or learning to live with the effects of 'sustainable damage' (Gammage 1994). In the same way that there is more than one problem, so there is more than one way of tackling environmental problems. What is missing from our language about sustainable environmental management is balance. The needs of the few (person-in-community, the group) must be measured alongside the needs of the many (broader society, 'the common good') in order to avoid isolation and fragmentation and to protect commonly held natural resources. This research has, I believe, rediscovered an important paradox in community — government relations. There is a difference in governments' expectations of how community groups work compared to what they produce as a result. And there is another difference between the community's expectations of government's results compared to the processes and approaches used along the way. In both there is an emphasis on attaining results (product) which skims over the process involved. Now that governments are attending to these decision-making styles with more rigour, there should also be an attendant emphasis placed upon how community groups work. But most importantly, there needs to be more energy spent on both community and government's behalf toward fulfilling human needs, maintaining ecological integrity, achieving equity and providing for systems of social self-determination in the middle-ground (Gardner and Roseland 1989).
This study has commenced an appraisal of bottom-up and top-down performance with regard to community-based environmental management. In future, if governments are really committed to community management of local environments, they must first critically examine the basic assumptions set out in Chapter 1:

a) that community and government are working together toward sustainable environmental management systems and

b) that both top-down and bottom-up approaches have a common set of interests and goals toward addressing issues of environmental degradation.

On the basis of this research, I believe it is important to tailor the cooperative management of local environments to suit the specific biophysical and socioeconomic context of each place. I also believe that a critical investigation of who stands to win and who stands to lose in any cooperative arrangement is crucial. However, the other observations and assumptions upon which this study was founded still hold true:

- Environmental degradation in Australia has become a national issue and is attracting continuing public concern
- Community groups have benefited from institutional support particularly where that support has provided access to resources and information.
- Government agencies have benefited from participatory approaches to environmental management issues where that participation has provided better delivery of information, a shared knowledge base, new insights and increased ownership of environmental degradation problems.

If government agencies and community groups are working cooperatively toward sustainability, then it is appropriate that both top-down and bottom-up approaches are used when negotiating the middle-ground. If, however, there are tensions in attitudes and values around establishing a common discourse between government and community, it will become apparent that community-based environmental management is not an uncontested goal even though it may have become a universal concept.
Finally, it is appropriate here to return once more to the community groups themselves to note what has happened since the fieldwork was concluded. Each group was unique in the way it contributed to local environmental management, but when compared with each other, it is clear that the ‘success’ or ‘failure’ of each group lay in the strength of its horizontal and vertical ties with both the local and wider communities.

10.4 Postscript

Water Watchers started out strongly with a well defined and locally active constituency. The group had not been in existence for very long before two key group members left to pursue other commitments. Nevertheless, the group fulfilled its major goal of monitoring local water quality over the next two seasons. However, the extent to which the remainder of the group were prepared to continue monitoring water quality has fallen dramatically over the last six months. Members are no longer content just to monitor water quality. They have completed what they set out to do and have located point source emissions of phosphorus into the waterways. Now, with longer term members leaving the group, it is faced with a reduced membership and a difficult decision. The group is confronted with three apparent choices:

a) to disband having achieved its goals,
b) to continue monitoring in a different format — perhaps through biological indicators to develop an inventory system with which to compare old data, or
c) to tackle the local political system and intervene in those situations where some properties are still contributing excessive quantities of nutrients to the creeks and drains in Serpentine Jarrahdale.

As discussed in Chapter 7, it appears that although the group had strong vertical links into government agencies and finely tuned hierarchical grids which catapulted it into the limelight in its establishment phase, it did not have the necessary horizontal ties in order to build the cohesion, identity and empowerment necessary for a sustained sense of community. In hindsight this rapid propulsion from
emerging group to well-known group may not have allowed sufficient time for extended community building and the development of rapport among group members.

The Downside Landcare group also started out with a strong local voluntary leader who supported the group through its establishment and consolidation phases before handing over to another local leader. It too had a well motivated and energetic local facilitator who left the group after her two year contract finished. However, she did not leave the region. She still farms near Wagga Wagga and is now the Regional Landcare Specialist for the southern slopes of New South Wales. The Downside Landcare group hired another local person to facilitate the group, but had already reached an optimal stage of development which allowed the group to become less reliant upon government support. The community group is well supported by other district residents and has embarked on a catchment planning project which will unite the two valleys in concerted action against dryland salinity and associated environmental degradation problems. They also enjoy relationships with other neighbouring landcare groups which neither of the other two case study groups appeared to have developed. In short, they have well developed vertical and horizontal linkages which establish their identity, their goals and go part way to assuring their future.

Lastly, the Mitchell River group has yet to attain the fruits of concerted effort enjoyed by the other two groups. But, it has also had by far the hardest task in developing a sense of community across a catchment which spans more than 75,000 square kilometres, 200 years of European and Asian history and tens of thousands of years of Aboriginal culture and history. The Mitchell River group have started on a program of short reports for the catchment in an attempt to build a database of catchment characteristics which draws upon both the socio-economic land use and biophysical nature of the region. The facilitator for that group is still working in the area and while the voluntary leadership of that group has changed once, it remains strong and viable. In essence, the mere existence of a group of people with such diverse skills, education, background, culture and experience makes the group's three years of remaining in an establishment phase an amazing feat. The mere fact
that group members are able to talk to each other at all is of considerable note. If anything, they have stronger horizontal ties than they do vertical ones. However, it is really too soon to assess the extent of the Mitchell River group's attachments to the local and wider community.

The community groups of this study are responding with determination and creativity to the rural crisis in Australia through attention to the ecological, economic and social dynamics within their local communities. What these post-scripts make clear is that community-based environmental management in these groups, is an iterative, collaborative and challenging process — the implications of which must be incorporated into current stewardship practice:

It may well be that wild-flowers grow by themselves. But grass-roots organizations do not. They are cultivated, in large measure, by just policies and competent government agencies that do their job (Annis 1987:133).
Appendices

1–5
Photograph by: Anna Carr, Centre for Resource and Environmental Studies
Saline recharge area, top of the catchment, Downside, NSW.
Appendix 1 Proposal and protocol

Dear Facilitator,

As promised, I have included a copy of my draft thesis proposal. My actual thesis differs minutely from this draft, but not enough to worry about. I'm specifically interested in the XXX Group for a few reasons:

1: I think the catchment approach covers both land and water resource issues, which have largely been treated as separate topics before ICM.

2: The XXX group offers a community approach to what has been set up as a government initiative in other parts of the State.

3: Issues such as cultural sustainability and problems of distance will be minor themes not necessarily raised in other ICM groups, (but by the same token not making up the central issues of this study - see the proposal).

4: The group is concentrating on on-ground projects, not merely acting as a coordinating body or a lobby group. It therefore places the group in the role of stewards for the area.

5: This group ties into the other case studies already undertaken (a water quality monitoring group and a landcare group).

My commitment to community action on environmental management is of paramount importance to me in choosing this study. If you have problems with any of the above, please write or phone me (06 -2495014) to talk about it. Otherwise, I will write another letter in the near future asking the official permission of the group to put before your next meeting.

Sincerely,

Anna Carr

Dear Chairperson,

I hope you have received my last letter regarding the goals of this study and have been able to discuss it with other members of the group.

I am now writing to officially request permission of the group to document the XXX Group as a case study of community involvement in environmental management. I have discussed the proposal with my supervisors and colleagues here at the ANU and they believe it will be a very worthy and interesting case.

I am currently writing up the results of my last case study and will finish in July. Should I be given permission to conduct the study, I hope to plan my trip to coincide with at least one full meeting of the working group.

I am looking forward to hearing from you so that I am able to start preparations in earnest.

Sincerely,

Anna Carr
Community Groups and Government Practice:  
A Review of Sustainable Environmental Management

Proposal
Anna Carr

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Background
State governments are using catchment management approaches to land, water and other environmental resources. Responding to a decline in the quality, quantity and productivity of rural resources, there has been increasing pressure from local communities and governments for more action and 'on ground change'. Many community groups (eg landcare groups, salt-action groups, water monitoring groups etc.) are being established. It is now timely to:

1) document and evaluate the management systems these groups use to approach rural resource issues and  
2) document and evaluate the effectiveness of government interventions (eg technical advice, seed funding etc..) in community group process.

Thesis
It is at the level of community where ethics, practicality, environment and economy are most conducive to implementing ecologically sustainable development within the shortest time frame, if at all. Community group action in environmental management is a recognised tool toward achieving sustainability. This thesis investigates the relationship between community and government initiatives toward sustainable management of natural resources. Specifically, I propose to examine and evaluate community group and government approaches to sustainable environmental management within a rural catchment context in three case studies.

Research Questions
1. a) What is meant by the terms 'sustainable development' and 'sustainable management'?  
b) What is the context in which 'sustainability' takes place? and  
c) What is the relationship between top-down and bottom up approaches toward sustainability?  
2. a) What principles and processes of sustainable environmental management do community groups use and  
b) how do these interact with government practices and policy?  
3. a) What are the government policies and practices relevant to community management of natural resources, and  
b) how do these help or hinder the effectiveness of community group activities?  
4. a) From a common set of principles and processes which community groups use and practices which government oversee, can we derive criteria against which to measure/evaluate community group's attempts to implement sustainable environmental management practices and governments' attempts to support their activities?

Current research and development is limited in this field. Studies have been confined to extension methodologies and practices in agriculture, or the adoption rate of new technologies or sustainable farming/planning systems. New work is essential to integrate these diverse approaches and involve the community in environmental, social and economic decision making.
### Appendix 2 Interviews conducted

<table>
<thead>
<tr>
<th>Water Watchers</th>
<th>Downside Landcare</th>
<th>Mitchell River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don Atkinson</td>
<td>David Allworth</td>
<td>Sam Adil</td>
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<td>Lima Andreatta</td>
<td>Ray Armit</td>
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<td>Gordon Arnold</td>
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<td>Harvey Bell</td>
<td>John Boorman</td>
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<td>Ann Bradley</td>
<td>Max Boudan</td>
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<td>Bruce &amp; Gaye Campbell</td>
<td>Gary Brill</td>
<td>Peter Cannon</td>
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<td>Judy Cooper &amp; Les Gristwood</td>
<td>Barbara and Noel Carmichael</td>
<td>John Clarke</td>
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<td>Don Crawford</td>
<td>Max Chamberlain</td>
<td>Gary Cotter</td>
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<td>Phil Franzone</td>
<td>Helen Chamberlain</td>
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<td>Kevin Goss</td>
<td>Laurie Cochrane</td>
<td>Diane Daley</td>
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<td>Bob Harrington</td>
<td>Jack Condell</td>
<td>John Dickenson</td>
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<td>Hazel Hartley</td>
<td>Jim Dennis</td>
<td>Paul Graham</td>
</tr>
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<td>Malcolm Hollick</td>
<td>Rod &amp; Jeanette Donohue</td>
<td>John Grainer</td>
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<td>John Hunt</td>
<td>Tony Dunn</td>
<td>Graham Hardwick</td>
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<td>Trudi Lang</td>
<td>Harry Francis</td>
<td>Peter Hensler</td>
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<td>Liz Mason</td>
<td>Rob Gollasch</td>
<td>Thomas Hudson</td>
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<td>Wendy Graham</td>
<td>Bill Kehoe</td>
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<td>Margo O'Byrne</td>
<td>Dick Green</td>
<td>Edith Kizman</td>
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<td>Adrian &amp; Ronnie Orlando</td>
<td>Blane Hamilton</td>
<td>John Kozicka</td>
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<td>Margaret Paley</td>
<td>Chris Howith</td>
<td>Colin Lawrence</td>
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<td>Jan Pascal</td>
<td>Rhonda Kemp</td>
<td>Lana Little</td>
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<td>Graeme Robertson</td>
<td>Noel Leahy</td>
<td>Maurice &amp; Beryl Marnane</td>
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<td>Sally Robinson</td>
<td>Bruce Mathew</td>
<td>Bruce McCarthy</td>
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<td>Rupert Richardson</td>
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<td>Nick Schofield</td>
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<td>Carolyn Switzer</td>
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<td>Geoff Syme</td>
<td>Roy Whitechurch</td>
<td>Viv Sinnamon</td>
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<td>Cath &amp; John Walden</td>
<td>Malcolm Wooden</td>
<td>Giselle Thomas</td>
</tr>
<tr>
<td></td>
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<td>Alma Wason</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sandy Whyte</td>
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</table>
Appendix 3 Interview guides

Interview guide for government officers

NAME: 

POSITION: 

ADDRESS: 

PHONE: 

FAX: 

BACKGROUND: 

General Questions

1. What do you think are the key environmental problems in the ... area?

2. What is your perception of a community group? Give examples of community groups with environmental interests.

3. What do you think should be done about these problems?

4. What role do community groups play in environmental management?

5. What skills, experience and personal attributes of individual group members is necessary for a community group to be effective?

6. In general, what do you think motivates people to join community groups?

7. Conversely what do you think makes it difficult for local people to be involved in community groups? What are the restricting factors?

8. What do you think would help reduce some of those restrictions?

9. What role should government play in assisting community groups? (skills, finance, resources, meeting rooms, etc...)

10. In general, whose responsibility is it to assist community groups? (Specific government departments, private sector, other local groups, etc...)

11. What role do you think government officers should have at community group meetings?
Specific Questions

12. How did you learn about the ... group?

13. What relationship do you have with the ... group? How much involvement did you have with them when they first started? Has that changed at all? Why?

14. How do you think the ... group started? In your opinion, would there have been a better way of starting such a group?

15. Who are the members of the ... group? Ideally, who do you think should be involved in these groups?

16. Does the ... group serve any specific interests in the community? How representative of the wider community are they?

17. What has happened as a result of the work of the ... group? Personally, what did you get out of the work of the group?

18. Do you think that what has happened has been good or bad:

   (a) to the members of the ... group

   (b) to the wider community, and

   (c) to the environment itself? In what way?
Interview guide for community group members

NAME: 

POSITION: 

ADDRESS: 

PHONE: FAX: 

BACKGROUND: 

General Questions

1. What do you think are the environmental problems in the ... area?

2. What is your perception of a community group? Give examples of community groups with environmental interests.

3. What do you think should be done about the problems spoken about earlier?

4. What role do community groups play in environmental management?

5. What skills, experience and personal attributes of individual group members do you think is necessary for a community group to be effective?

6. In general, what do you think motivates people to join community groups?

7. Conversely what do you think makes it difficult for local people to be involved in community groups? What are the restricting factors?

8. What do you think would help reduce some of those restrictions?

Specific Questions

9. How did the ... group start?

10. Were there key people responsible for starting the group? Who were they and how did s/he get the group going?

11. Now who are the key people responsible for the group? Do they keep the group going and motivated, how?

12. Why did you become involved in the ... group? What motivated you to first join the group and then to continue in it? How long have you been a member of the group?

13. Who else is involved with the ... group? Do you feel that the membership of the group is appropriate? Did the group seek out specific people or interest groups?
14. How representative of the wider community is the ... group? Is there any one else you would add to the group?

15. What involvement has the group had with government departments and their representatives? What do you think the role of government officials should be in the process?

16. When the ... group first started, did it set any initial goals? How structured was your approach? (Minutes, written memo’s, notes etc...) Did you try to ensure that everyone in the group had a common purpose or long term set of goals?

17. What is your role in regard to the ... group? How much involvement have you had in the group?

18. How much time did you spend working with the group when it first started? Has that changed at all? Why?

19. Does anything limit your involvement with the group? For example, time, money, personality conflicts, scientific knowledge, media knowledge, special skills, group structure?

20. Does anything make it easier for you to be involved with the ... group? What?

21. Where do you take the time from to be involved with the group? Is money a factor in your involvement, where do you get it from? Where do you get other special skills, scientific knowledge from? What makes these factors important?

22. What sorts of activities do the group do together, and what is the most common means of interaction with the group, e.g. hold meetings, talk by telephone, meet informally etc.

23. Is the number and frequency of meetings appropriate to your needs?

24. How much of your personal money has gone into the running of the group - both in direct contributions and in terms of lost income? Has that amount changed over the period of your involvement with the group? Do you think that it was worth the effort?

25. What has happened as a result of the work of the group? Personally, what did you get out of the work with the group?

26. Do you think that what has happened has been good or bad (a) to the members of the ... group (b) to the wider community, and (c) to the environment? In what way?

27. Are you involved in other community groups or organisations?
Interview guide for non-members

NAME: 
POSITION:

ADDRESS: 
PHONE: 
FAX: 

BACKGROUND:

General Questions

1. What do you think are the key environmental problems in the ... area?

2. What is your perception of a community group? Give examples of community groups with environmental interests.

3. What do you think should be done about these problems?

4. What role do community groups play in environmental management?

5. What skills, experience and personal attributes of individual group members is necessary for a community group to be effective?

6. In general, what do you think motivates people to join community groups?

7. Conversely what do you think makes it difficult for local people to be involved in community groups? What are the restricting factors?

8. What do you think would help reduce some of those restrictions?

Specific Questions

9. Have you heard of the ... group? How did you learn about them?

10. What relationship do you have with the ... group? How much involvement did you have with them when they first started? Has that changed at all? Why?

11. In your opinion, would there have been a better way of starting such a group?

12. Who are the members of the ... group? Ideally, who do you think should be involved in these groups?

13. Does the ... group serve any specific interests in the community? How representative of the wider community are they?
14. What has happened as a result of the work of the ... group? Personally, what have you experienced from the work of the group?

15. Do you think that what has happened has been good or bad:

(a) to the members of the ... group

(b) to the wider community, and

(c) to the environment itself? In what way?

16. Are you involved in other community groups or organisations? If so, in what capacity?
DECISION MAKING

1. Overall, how satisfied are you with the group's processes for decision making?

   Highly Unsatisfied   Highly Satisfied

2. To what extent do you feel you can affect a group decision?

   Not at all   To a large extent

3. How many people are involved in making decisions?

   One   The whole group

4. For effective week-to-week decision making did you feel the group was:

   Too small   Too large

5. What degree of participation in decision making did you feel the group experienced?

   Participation lacking   Full Participation
LEADERSHIP | FACILITATION

1. How clear were leadership & facilitation roles in your group - even if shared or rotated?

[ ] Very unclear [ ] Very clear

2. To what degree were leadership skills encouraged among members?

[ ] Low degree of encouragement [ ] High degree of encouragement

TRAINING | SKILLS DEVELOPMENT

1. How much opportunity have you had to learn new skills?

[ ] Few Opportunities [ ] Many Opportunities

2. How much opportunity have you had to teach your skills to others in the group?

[ ] Few Opportunities [ ] Many Opportunities

3. Was attention given to training & skills development?

[ ] No attention [ ] Considerable attention
GROUP COHESION

1. Were you given constructive feedback on your contribution?

No feedback

Very constructive feedback

2. How well do you know the other group members?

Not at all

Very well

3. Do you feel your unique perspectives (age/gender) were respected?

Highly disrespected

Highly respected

4. To what extent did you feel pressured to contribute by other members of the group?

No pressure

Highly pressured

5. To what extent do you feel the group cooperated in achieving your goals?

Highly uncooperative

Highly cooperative
RESOURCES

1. Do you feel there were enough resources available to the group to do its job effectively?

<table>
<thead>
<tr>
<th>Not enough</th>
<th>Too much</th>
</tr>
</thead>
</table>

COMMUNICATION

1. To what extent did you feel you were consulted or listened to by other group members?

<table>
<thead>
<tr>
<th>Rarely</th>
<th>Often</th>
</tr>
</thead>
</table>

2. How clear were communication channels about which tasks were to be done when & by whom?

<table>
<thead>
<tr>
<th>Vague, confusing</th>
<th>Direct, clear</th>
</tr>
</thead>
</table>
1. Overall, to what extent did your group have fun together?

No fun    All fun

2. How much do you feel you contributed towards achieving the group goals?

Contributed nothing

Contributed a lot

3. How supported did you feel by the group when expressing your feelings & opinions?

Not supported at all

Strongly supported

4. Were conflicts in the group acknowledged & resolved?

Conflicts handled ineffectively

Conflicts handled effectively

5. What was the overall climate for group interaction?

Poor    Good
HIGH POINTS & LOW POINTS

(✓)  (✗)
Bio-physical Profile

The Peel Harvey Catchment lies immediately to the south of Perth and to the north of Bunbury and extends inland to the east of Narrogin, (Figure 2). However, that part of the catchment of interest to this study lies on the coastal plain and is identified by the Peel Harvey administrative catchment boundary as determined by the Environmental Protection Authority, (Figure 3).

The Shire of Serpentine Jarrahdale covers 905 square kilometres and is situated 45 kilometres immediately to the south of Perth, in the northern section of the Peel Harvey Coastal Catchment, see Figure 4. The climate is typically mediterranean. The summers are hot with strong easterly winds sometimes moderated by an afternoon sea breeze. Winters are cool and wet with an annual rainfall ranging from approximately 800mm to 1200mm rising with altitude.

Serpentine Jarrahdale is characterised by its split location into two distinct geological features: the Darling Escarpment (east Archean Yilgarn block) and the Swan coastal sand plain between the scarp and the sea. On the scarp and eastwards the soils are mainly gravel and loam. There are two predominant soil types on the coastal plain commonly known as 'the flats'. These are; sand and sand over clay. The agricultural use of soils on the 'flats' has many implications for phosphorus leaching into the water table and drains throughout the area (see 'Issues' below).

Figure 3: Peel Harvey Coastal Plain Catchment

Source: Environmental Protection Authority, Draft Environmental Protection (Peel Harvey Estuarine System) Policy 1992
Land use is mostly agricultural (both broad acre and intensive), with a large percentage of the area covered with State forest and a smattering of light industrial and commercial enterprises, see Table 2. Among the local industries are; dairy farms, cattle and sheep breeders, piggeries, market gardens, orchards, horse and cattle studs, timber mills, bauxite mines, brickworks, quarries, pine treatment plants and cheese factories. There are four main urban sites, Byford, Mundijong, Serpentine and Jarrahdale with five smaller suburbs and localities, Keysbrook, Oakford, Mardella, Whitby and Cardup (WA Municipal Directory, 1991-92).

The ‘flats’ are known for their many wetlands and low lying areas. Some of these have been filled, others are being protected, the majority have been degraded owing to agricultural activities over the past 100 years. It is estimated that since European occupation, 75 per cent of these wetlands have been altered irretrievably (Riggett, 1974).

A vegetation profile of the area shows representation of Jarrah, Marri, Powderbark Wandoo, Flooded Gum and various species of Casuarina and Melaleuca. Shrub species include Samphires, Regelia, Kingia, Jacksonia, Viminaria and many Melaleuca species among others (AGC Woodward Clyde 1991). Importantly, it is known that the number of flora species are diminishing. In a publication entitled Declared Rare Flora and Other Plants in Need of Special Protection in the Northern Forest Region, Conservation and Land Management officers note that there are two species
Table 2: Land Use

<table>
<thead>
<tr>
<th>Zoned Land</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>43,230</td>
</tr>
<tr>
<td>State forest</td>
<td>37,341</td>
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<tr>
<td>Parks and Recreation</td>
<td>5,058</td>
</tr>
<tr>
<td>Recreation and Conservation</td>
<td>675</td>
</tr>
<tr>
<td>Urban</td>
<td>426</td>
</tr>
<tr>
<td>Special rural</td>
<td>2,440</td>
</tr>
<tr>
<td>Special residential</td>
<td>222</td>
</tr>
<tr>
<td>Public purpose</td>
<td>890</td>
</tr>
<tr>
<td>Special uses</td>
<td>281</td>
</tr>
</tbody>
</table>

**Land uses**
- Broad acre agriculture
- Intensive agriculture
- Mining
- Extractive industries
- Water catchments
- Rural-residential development
- Hobby farming

**Urban townships**
- Byford, Mundijong, Serpentine, Jarrahdale, Keysbrook, Cardup


'presumed extinct' in Byford and Serpentine, two species with a 'Priority 2' listing, one species with a 'Priority 3' listing and one species listed as 'rare', (Kelly, Coates et al, 1990).

The diminishing vegetation is largely due to widespread clearing in the Shire. It is estimated that only 9 per cent of the entire Shire is covered by remnant vegetation with some further reports that there may be as little as 1 per cent left entirely intact, i.e. non-grazed, non-forested, non-burnt and non-weed infested (Carr, pers. comm.). This loss of understorey habitat coupled with increasing numbers of cats and foxes introduced into the area almost certainly equates to a loss of small bird and mammal species. However, as in many areas in Australia, there is no known historical register of biological diversity on which to base these assumptions.

Conservation estate within the Shire amounts to 5,733 hectares, with Serpentine National Park occupying 5,058 hectares. There are a further 14 reserves and conservation areas within the Shire. There are also two major water catchments; the Serpentine Dam and the Wungong Dam.

**Issues**

One central issue relating to the current bio-physical condition of Serpentine Jarrahdale and historical land management practices is poor water quality. More specifically, nutrient loss and associated eutrophication have been causing algal blooms in the Peel Harvey estuary. This has been well documented by several government and independent reviewers (for a more complete analysis, see Bradby, 1992). The problem has been a recurrent one since the mid 1970s and has been the subject of repeated government investigations. The Environmental Protection Policy released recently by the Environmental Protection Authority recognises the importance of consultation with and participation by the local community. In the Policy, management targets are set based on principles of coordinated action on a sub-catchment basis involving negotiated agreements between government and 'persons affected by changes to phosphorus management programmes' (Environmental Protection Authority, March, 1992, p.4). It is mentioned here in as much as water quality is of central concern both from hard and soft science perspectives. In a sense, the problem of poor water quality is serving to unify specialist scientific endeavour with general community participation, providing Water Watchers with a legitimate base as information brokers and water quality monitoring specialists.

Other issues concerned with the bio-physical profile of the area are; water resource management, wetlands protection, vegetation protection and revegetation, soil erosion and salinity (AGC Woodward Clyde, 1991). With regard to the latter two issues, AGC Woodward Clyde estimate that 13,488 hectares (28 per cent) of the Shire's rural area is moderately susceptible to wind erosion and 5,047 hectares (11 per cent) highly susceptible to water erosion. Concurrently, 6,258 hectares on the coastal plain is possibly susceptible to salinity incursion while 16,625 hectares is moderately to strongly susceptible to salinity. These issues are documented in the forthcoming Rural Strategy and subject to careful consideration by the Shire, State Government departments and national land and water management strategies.
Socio-Demographic Profile

The population of Serpentine Jarrahdale grew steadily from the 1981 census (5039 persons) to the 1986 census (6523 persons) at a rate of 5.3 per cent (Shire of Serpentine Jarrahdale, Demography and Planning 1989). The WA Municipal Directory in 1991-92 now estimates the Shire to have a population of approximately 8,000 people. It is important to note that the growth rates for Serpentine Jarrahdale during the same period far exceed those of the Perth Metropolitan area as a whole. This was partially predicted in 1963 by the Metropolitan Region Scheme (including Serpentine Jarrahdale) which estimated that by 2001, 35,000 people would live in the area (Shire of Serpentine Jarrahdale Planning and Demography, 1989).

While a very small percentage of the population increase in Serpentine Jarrahdale is accounted for by increasing numbers of births, by far the largest percentage of the increase was due to newcomers moving into the area. Many of these have chosen to live on hobby farms and set up intensive/alternative agricultural enterprises (Croft, 1991). Indeed, much of the population in Serpentine Jarrahdale live in rural areas. In 1981, it was estimated that only 37 per cent of the population lived in urban centres of the Shire. However, this may have changed with the inclusion of Serpentine Jarrahdale into the Perth Statistical Division in 1983 (Department of Home Affairs and the Environment, 1983). I have no recent statistical evidence to support or reject an apparent move toward a more urban based population, yet an emphasis on rural life-styles based on ‘quality of life’ issues can still be observed in the Shire.

Employment figures for the Shire over the period from 1971-1991 illustrate a large increase in manufacturing, commerce and service industries relative to a decline in the traditional resource based or primary industries over the same period. For the community service industry, including health, education and welfare occupations, John Croft estimates that there has been an increase of as much as 473 per cent over that 20 year span. He concludes that the traditional economic bases of the Shire; agriculture, forestry and mining are being lost as Serpentine Jarrahdale begins its ‘slow, inexorable incorporation of the Shire into metropolitan Perth’ (Croft, 1991, p.15). Another interesting feature of the Serpentine Jarrahdale workforce is that it was estimated by the Planning Department in 1988 that over 60 per cent of the labour force travel outside the Shire to work (Serpentine Jarrahdale Planning and Demography, 1989). Again, there are no recent statistics to indicate the current commuter pattern.

Issues

As more and more people are finding ‘the good life’ in Serpentine Jarrahdale, there are escalating and unresolved issues which centre around an increased population. Ironically, not the least of these concerns is aired by those residents who themselves were newcomers 5-10 years ago. An issue which illustrates this conflict very succinctly is that of effluent disposal. The number of septic tanks being installed in new developments and on hobby farms is of concern to those in the Shire who recognise the potential for septic tanks to influence the amount of phosphorus in the water ways. Consequently, those who may have established septic tanks in the past 10-15 years ago are sometimes vocally opposed to new residents intending to install septic tanks now.

Related issues to the population increase include waste management, housing stability, bush fires and loss of habitat. In a recent national survey of local government information needs, it was found that the foremost environmental problem facing Australians in the 1990s is waste management (Brown, 1992). This is reflected in a recent report of the Community and Family Commission in WA. In a widespread community consultation exercise, they found that ‘concerns about the environment were among the most frequently raised issues throughout the public hearings and in the submissions... regardless of age and geographic area’ (Community and Family Commission, WA, p.5). Within that category it was further established that recycling, water management, land care and air pollution were the most important issues. It is important to note that these more general socio-demographic issues are also related to the current bio-physical condition of the Shire and will have a more direct impact in future years if they are not addressed soon.

Economic Profile

As indicated above, in earlier times, the economic well being of the Serpentine Jarrahdale was almost...
entirely dependent on primary and extractive industries. Certainly, the Shire is still largely dependent on agriculture, but at a decreasing level compared to the 1960s and 70s. A comparison of the rural income as a percentage of the total income in the Shire reveals that in 1975/76, the total income in the Shire was almost 92 per cent comprised of rural income. In 1985/86 the same figure had dropped to 51 per cent of total income earned in the Shire (Croft, 1991).

In the financial year between 1988-89, the gross value of agricultural commodities produced within the Shire was $24.6 million (AGC Woodward Clyde, 1991). Some residents have said that this statistic makes the Shire among the richest agricultural areas of the State. During the same period, there was an initial increase in the number of rural holdings from 202 in 1966/67 up to 243 holdings in 1984/85 followed by a sharp decrease to 151 rural holdings in 1986/87. Notably, this trend toward a decrease in the number of rural holdings is evidenced all over Australia according to Synnott (1991) in a paper entitled, 'An Alternative Approach to the Institutional, Economic and Political Aspects of Sustainable Land Management'. He says, 'whereas in 1966 there were 200,000 agricultural establishments in Australia, there are now 120,000' (Synnott, 1991, p.4) - perhaps due to a combination of decreasing numbers of small landholdings and increasing numbers of agribusinesses. However in Serpentine-Jarrahdale, the area of rural holdings remains relatively constant at about 34,000 hectares.

According to Croft's analysis based on ABS statistics, in 1986/87 there appears to be a decline in the area of rural holdings. In fact, this recorded drop is not a net reduction in cleared land but attributable to two factors. The first reason has to do with the way in which the Australian Bureau of Statistics changed its data coding process during that period. Instead of recording the acreage of cleared land and the number of rural landholders, they started to measure rural land as the acreage of 'active rural holdings', land farmed only by those landholders making a gross income above $20,000. This served to exclude hobby farms on the basis of their size in relation to their earnings. The second reason is that hobby farmers have bought property in the area that they are not farming as a primary means of income. Many of these farmers live on the property, but work part time elsewhere, or farm full-time but earn a proportion of their income from off-farm employment thus not being categorised as 'active' rural landholders. Certainly in the Shire of Serpentine Jarrahdale, there are more opportunities for earning off-farm income in terms of the close proximity to Perth labour markets than for farmers who live further away.

The average farm income has dramatically increased over the decade between the mid 70s to the mid 80s. In 1975/76 the average farm income (calculated at current prices) was $51,743. In 1986/87 it had increased to $186,606. However, in hindsight this too is likely to be attributable to a change in recording process, since the average income was derived previously from the total number of rural landholders. Now it is derived only from the number of landholders earning more than the minimum cut-off salary to be classified as full-time farmers. During the same period there has been a noticeable increase in the land planted with vegetables and orchards and a steady decrease in numbers of dairy cattle and pigs (Croft, 1991).

Within a retail and manufacturing context, there has been a steady growth in average size and turnover per establishment, somewhat as expected. However, it should be mentioned that the population has not yet reached the level required for the area to support a department store or sizeable shopping centre. Thus, much of the shopping dollars earned in the Shire are spent outside it in the neighbouring metropolitan suburbs.

As an interesting point on which to conclude, Croft notes that Serpentine Jarrahdale has a low percentage of families living below the poverty line in comparison with other parts of the State and indeed the nation. He also states that the local economy is currently quite buoyant and postulates that:

'Serpentine Jarrahdale has been favoured by a fortuitous combination of circumstance which has allowed it to preserve a rural lifestyle, with a close proximity to the services of a large urban centre.' (Croft, 1991).

Issues

The pattern of change from dairy and beef cattle to vegetable and orchard farming in some areas of the Shire is noted not only in Serpentine Jarrahdale, but in many other regions in Australia. Indeed, the economics of broad acre farming in light of the nutrient enrichment issue in the Shire have been
questioned to such an extent that farmers in the Shire have felt quite threatened at times (Bradby, pers. comm. 1991). In addressing the problem, one State government employee was attributed with the idea of compensating farmers for their anticipated inability to farm using traditional agricultural methods in the area. It is not the first time that someone has espoused the introduction of legislation banning the use of superphosphate on the fragile ecosystems of the coastal plain. By way of recompense she suggested that farmers be paid to stay on the land as environmental stewards and caretakers rather than net contributors to the increase of phosphates and nitrates in the waterways. Interestingly, the notion of compensation to affected farmers had already been adopted in a somewhat different form in the late 1970s to alleviate dryland salinity. The Western Australian Water Resources Council recommended that the government impose clearing controls to slow down salinity and land degradation in the South West of Western Australia (Sadler, Loh, Ventriss and Kite, 1991). Needless to say, nutrient enrichment is not simply an economic issue, but a social justice issue, an ecological issue and an issue which may or may not be resolved using existing legislative means. However, it has been introduced here to illustrate the level of contention surrounding agricultural economics and land/water degradation.

Other economic issues associated with nutrient enrichment in Serpentine Jarrahdale include; the cost of superphosphate, the productivity of using red mud as a phosphate binder, the cost-benefit in belonging to an LCDC or similar landcare group and the long term productivity of piggeries. The latter have been seriously questioned as point source sites of phosphate leaching contributing to nutrient enrichment in the Peel Harvey inlet.

1830 - 1870

During this period the first indications of European occupancy of the Serpentine Jarrahdale region were recorded. Local Aborigines were noticed, but only in passing, as peaceful or aggressive dependent upon the attitudes of the incoming whites. Early explorers told of the extent of local knowledge held by the Nyungar people concerning food sources and the environment. But as Coy writes:

'Though the Nyungar were obviously masters of the land to which they belonged, they were no match for the more sophisticated know how of European civilisation. Their cult of superstition, tribal boundaries and personal vengeance held no place within the realms of British justice (p.6. 1984).

British settlers were meanwhile experiencing great difficulty cutting down the Western Australian hardwoods. Bolton writes 'some took to ringbarking and burning off. Because of their inex-perience the fires often got out of control with calamitous results' (Bolton, 1981, p.42). Apparently that resulted in one of the first pro-environmental pieces of legislation. Bolton continues 'in 1847 Western Australia legislated that any person wilfully or carelessly setting fire to any vegetation between 1 September and 1 April would be fined a maximum of 50 pounds - or, if an Aboriginal or a boy under sixteen, given a public flogging of up to fifty lashes' (ibid, p.42).

After clearing the land, early settlers surveyed and moved into Serpentine, Whitby Falls, Byford and Jarrahdale. In the same period, the first and last convicts arrived and schools were opened in several locations. Lastly, copper and lead mines were opened in Kelmcott and a silver and lead mine was established at Mundijong.

1870 - 1910

With the onslaught of European occupancy, so the Nyungar people became less and less visible. Hammond, in Coy (1984), wrote; '...The measles epidemic
of the early eighties [1880s] affected the natives of the South - West and East very much. They died off in great numbers... when the old Chief Winjan died in 1884 it was the end of real Aboriginal life in the South West... (ibid, p.6).

Perhaps the other most notable occurrence early in this period was the establishment of a number of timber mills including the Jarrahdale Timber Station. Ticket of leave (TOL) men, and specialists from Victoria were brought in as labourers and managers in the running of the mill. According to a letter home to England from one TOL man, Joseph Wright: ‘It is a rum country, the masters do almost as they like, it has been 16 weeks since they paid the men, and when the men get paid they will not work till they have spent it all... They are trying to get a lot of Chinese labour into the Colony but the Chinese have got more sense than us for very few of them will come’ (Coy, 1984, p.95).

The whole of the timber industry came under pressure during the last decade of the 19th century and the first decade of the 20th century. A special point of interest was the recommendation by Commissioner for Crown Lands in 1897 for the preservation of native forest:

There will come a day, if we do not take care, when an ancient tree will be a thing of the past, and the land selected for the permanent reserve should contain some of the noblest trees existing in the whole area, so... those coming after us can see what noble trees the Colony possessed (ibid, p.116).

In 1907, the great timber strike commenced thereby sealing the fate of the unfortunate Jarrahdale Timber Station and others in the ‘Combine’, an amalgamation of 8 timber companies in the area. Also during this period the mail coach service began, a railway service commenced, gold digging activities started and a number of townships and localities were gazetted.

1910 - 1950

Aside from the advent of the first and second World Wars, the first half of the 20th century was most noted in Serpentine Jarrahdale for the widespread clearing of agricultural land on the foothills and coastal plain. During the early 1920s, Coy writes, ‘cattle were allowed to roam the bush and it was still possible to ride a horse to the coast without ‘cutting’ a fence. Settlers would sort out their own cattle at round up time. Emu, kangaroo, dingo, scrub turkey and wild duck were very plentiful and during that short possum hunting season many of these animals were shot or snared for the fur trade’ (ibid, p.139). Later in the same decade, all that changed under the Group Settlement Scheme designed to provide housing and bring new industry to the South West. During the 1930s however, there was already an indication of the failure of that program when 40 per cent of group settlers were recorded as no longer residing on their allotted land. More about the Group Settlement Scheme below.

Dairy farms in the Serpentine area became more and more widespread as evidenced by the cheese factory which opened in 1932. Coy writes, ‘...Potential milk supplies could be drawn from 1500 dairy cows within a four kilometre radius, with another 1500 head inside a total radius of eight kilometres...' (ibid, p.149). The depression years were a time of expansion for the dairy industry both due to land being cleared for more production and with the advent of superphosphate. In turn, more landholders turned to dairying to make a living; and the State of Western Australia under the premiership of Sir James Mitchell, encouraged the industry and promoted Group Settlement of migrants onto the land to have it 'developed', meaning cleared.

Because of his enthusiasm for the dairy industry and the group settlement scheme, Mitchell was dubbed 'Moo-cow Mitchell' and was widely regarded either as a mad-man or saint, depending on the viewer's social and financial status. Indeed, it was the intensity of Mitchell's enthusiasm which brought about comments such as the following from an admirer of his:

I think this scheme one of the most statesmanlike and prolific I have come in contact with since I was first able to understand life at all (Sir William Beach Thomas quoted in Gabbedy, 1988, p.98).

Unfortunately, the reality of group settlement was a far cry from the plans and schemes of Sir James. When first offering the Peel Estate for sale, a J.P. Camm, district land superintendent of the South West made the following price assessment based on details provided by a contract surveyor:

In determining my recommended prices I have after discussing the matter with Mr. Surveyor Rudall, placed a value of fifteen pounds per acre on the rich bulrush swamps that can be drained and three pounds per acre on similar land at The Spectacles, where drainage is problematical and placed
a value of from thirty shillings to four pounds per acre according to quality of soil and cost of clearing in the 1st class land growing heavy paperbark etc., while the inferior country has been valued as low as seven shillings per acre (Camm quoted in Gabbedy, 1988, p.55).

To summarise lessons learned from the Group Settlement Scheme, one last quote from a teacher at a Group Settlement school is instructive: I was told by a supervisor that one of the principal faults in Group Settlement lay in the selection of land suitable for intensive farming’ to which Sir James reputedly replied ‘if they can’t find me the land I want, I’ll find somebody who will’ (Gabbedy, 1988, p.99).

Several other points of note occurred during the 1920s and 1930s. Firstly, the Peel Estate drainage system, planned in the 1920s to drain 35,000 hectares, was finalised in 1925 to ameliorate the effects of persistent flooding of the low lying land on the coastal plain. Secondly, rabbits (in plague proportions) and foxes began to appear in the area during the early 1930s. However, it was the extent and the urgency of land cleared for which this era will best be remembered. Coy writes most explicitly on this matter:

Large trees were felled, cut up for firewood and the stumps blown out of the ground with explosives. Smaller growth such as banksias, grass-trees, bottlebrush and ti-trees were usually uprooted wholesale with tractors... and the shallow but very fertile swamp soils were ruined by deep ploughing, thereby bringing the sour sub-soil to the surface (ibid, p.202).

1950 - 1990

Electricity, reticulated water supplies and increased mechanisation were as much a feature of the post war history of this region of Australia as they were in most others. Bauxite mining started in 1963 by Alcoa of Australia and new Shire offices were opened in Mundijong in 1972, along with a new primary school. It was during this 40 year period that most of the population growth occurred, and with it, recognition of the ‘bad’ land management practices of the 1920s and 30s. The first algae blooms in the Peel Inlet were recorded in the 1960s and since then there has been widespread investigations concerning their causes and cures, accompanied by continuing blooms. Most of the research into nutrient enrichment of the waterways has been conducted in Perth by senior government officials, much to the frustration of local landholders who perceive themselves to have been left out of the process. With the emergent philosophy of public participation legitimised by the Community Catchment Centre local people have become more involved. As a result of earlier efforts on behalf of farmer lobby groups and through the Shire’s push for a rural strategy, the context for community involvement has been created. In this climate, Water Watchers has emerged as a community group willing to confront local environmental problems. Lastly, Serpentine Jarrahdale presented WA with the first female dominated shire council with a total membership of 9, 5 of whom are women. While perhaps not a remarkable event in itself, this marks the progression of ideas and changes from pioneering to ‘modern’ attitudes throughout the Shire during the past 160 years.
Biophysical profile

Downside is a small community 20 kilometres north of Wagga Wagga, situated in the heart of the southern slopes of rural New South Wales, see Figure 4. However, the boundary of the Landcare Group is difficult to define, as mentioned earlier. According to cadastral information first provided by the Department of Conservation and Land Management, the study area is defined by the shaded area on Figure 4. Another map generated by the same Department's geographic information system shows the Downside Landcare Group boundary as following catchment lines, with the exception of one property included for reasons of social cohesion. Whatever the boundary line, there are some biological and physical characteristics of the area which provide context for the ensuing discussion. Consider the following three diagrams, geographical location, elevation and annual precipitation for an outline of the study area. Note that in Figure 5, there is a distinct demarcation of the Murrumbidgee River in the middle of the figure, the Australian Alps in the south east of the figure and the flatter country on the western edge toward Narroandra.

The climate is typical of much of south eastern Australia, warm - hot dry summers and cool - cold wet winters. An interesting illustration is that of annual precipitation, as seen in Figure 6. Across the whole of the Riverina region, a distinct change is discernible from a higher annual precipitation in the south east to a lower one in the north west. In Downside however, there is a trend for higher rainfall in the north to lower rainfall in the south of the catchment, echoing the digital elevation model for the area. Taking data extracted from the Wagga Wagga Technical Manual, the Downside climate is similar to that in Junee, see Table 2. When interpreting this table, it should be noted that the extremes of temperature, especially in summer, do not always correspond with the mean.

Soils in Downside are mainly duplex or red earth, found on gently undulating terrain with a granite base. There is also a smaller band of yellow solonetzic and red podzolic soils found in higher rainfall areas and associated with flood plains and creek terraces. Sheet and gully erosion are common forms of land degradation associated with these soils (NSW Soil Conservation Service, 1986). Consultants employed by the Junee Shire to produce a local environment plan, observed that:

Red earths occur in close association with red podzolics and yellow solonetzic soils. The nutrient base of these earths is generally low, and require fertilisation with phosphorous and nitrogen for sustained yields. (NSW Soil Conservation Service, 1986 cited in Hughes, Trueman, Ludlow Engineers, 1991, p.16)

Land use for the Downside area is also similar to that of the Junee Shire in general. It is mainly mixed cropping and livestock agriculture. Crops include wheat, oats and barley, with an increasing number of landholders planting broad-leaf crops such as canola and legume crops such as lupins and field peas. Native grasses as well as sown pastures such as paspalum, lucerne, clover and phalaris make up a significant percentage of agricultural land use in Downside (Hughes, Trueman and Ludlow Engineers, 1991). Although sheep are predominant for both wool and fat lamb production, there are several landholders who farm beef cattle. There is also a poultry farm and a pig farm in the area. See Figure 7 for an overview of land use in Downside.

A vegetation profile in Downside is indicative of a legacy of clearing for agricultural production. According to the Wagga Wagga office of the Department of Conservation and Land Management, there is approximately 1.1% of the total catchment left in timber. Even that has been grazed resulting in substantial disturbance to understorey habitats. From information supplied by the National Parks and Wildlife Service, Hughes, Trueman and Ludlow

Table 2: Climate in Downside

<table>
<thead>
<tr>
<th>Description</th>
<th>Downside</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average yearly rainfall:</td>
<td>529mm</td>
</tr>
<tr>
<td>Average annual number of frosts:</td>
<td>15</td>
</tr>
<tr>
<td>Average winter daytime temp:</td>
<td>7.8°C</td>
</tr>
<tr>
<td>Average summer daytime temp:</td>
<td>23.7°C</td>
</tr>
</tbody>
</table>

Source: Soil Conservation Service of NSW, based on Junee data from 1948-1979

* Extracted from Community involvement in landcare: the case of Downside (Carr 1993b)
Figure 4: Downside - Geographic location.

Note that within the Junee Shire, conspicuous tree species include:
- Black and white cypress pine
- Red stringybark
- Red ironbark
- Blakely's red gum
- Yellow box, grey box and white box
- Cootamundra wattle
- Tumbledown red gum
- Dwyer's mallee gum
- River red gum.

Of these, all of which are likely to have been present in Downside in the past, most are still there, but none remain in any significant stands. Based on advice from the Greening Australia representative in the area, cypress pine, red ironbark and tumbledown gum are likely to remain along the ridges, although their occurrence is limited. Blakely's red gum and river red gum still occur along Houlaghan's Creek and the other species are scattered, occurring in open woodlands with little or no understorey. Cootamundra wattle is the exception to this as it was widely planted as an ornamental species by early settlers to the district (Green, pers. com. May, 1993).

Issues arising
From both the qualitative data collected during interviews and secondary data listed above, there are several environmental management issues in need of discussion. Perhaps the overriding issue is the protection of agricultural industries in Downside. Fragmentation of property holdings, encroachment
of rural residential development and land degradation are all important elements of agricultural land protection (Hughes, Trueman and Ludlow Engineers, 1991). These consultants further note that of the 93 sub-division applications received by the Shire of Junee in the twenty year period from 1970 to 1990, only two were refused, both in 1990 and next to each other. It was in that year that subdivision became a major source of conflict in the Downside community. Some landholders believe that good quality farming land should remain in agricultural production, while others believe that it is an individual's right to do as she or he wishes with their land. Proponents of that perspective point to the income earning potential for subdivision in the short term, especially while the rural recession continues in the farming community. This issue is raised again later in this paper.

Land degradation is the issue which I wish to discuss in more detail and, perhaps, that which can most readily be identified as giving rise to the Downside Landcare Group. In the Downside catchment area, there are a series of land degradation problems: acidity, salinity, gully, sheet and rill erosion, water-logging, tree death, nutrient decline and the ill effects of pests and weeds. All of these have been alluded to or directly specified as environmental problems in Downside during interviews with residents and governmental representatives. None of these land and water quality problems are unique to Downside. To a greater or lesser extent they are all features of the farming landscape of south-eastern Australia. It is appropriate to mention each of these problems briefly to provide a context for the following analysis of the Downside Landcare Group. Please note that this discussion is not meant to illustrate the whole spectrum of scientific research in each area. Instead it is designed to show the complexity and interrelationships of these problems as background to the development of the landcare movement.

Acidity

Acid soils are not exclusive to Downside. Acid soils are a feature of other parts of the wheat and sheep belt in southern New South Wales and parts of Victoria. Caused by a history of sowing legume pastures such as subterranean clovers and applying
superphosphate, acidity is a common problem. In the Wagga Wagga region, studies show that pH in the top 10 centimetres of the soil profile may have decreased from 5.0 to 4.3 over 55 years of growing fertilised subterranean clovers on yellow podzolic soils (Fenton, 1992). The short term 'cure' is the application of alkaline substances such as lime. However, the cost of lime and especially associated freight charges make this an expensive option for many landholders. The problem is summarised aptly here:

The slow acidification of soils under improved pastures in south-eastern and south-western Australia is threatening to reduce both crop and pasture productivity over large areas. The problem is really only just emerging as significant acidification can take up to 50 years to develop and many of these pasture are only 30 years old. (Cocks, 1992, p.43)

Salinity

More than any other form of land degradation, tree death, rising water tables and poor soil structure associated with saline seepage (dryland salinity) make this one of the more visible signs of environmental distress. Again, this is not unique to Downside. Once salinity problems became recognised there, it was not long before the Landcare Group was formed and the community rallied "to do something about the problem". Recognition of the role of cleared recharge areas in terms of saline discharge areas lower in the two valleys brought many of the local landholders together. Unfortunately however, not all local residents came to the public meeting when the landcare group was formed and not all of them are involved in protecting Downside from salinity problems.

In a recent edition of Landcare News, another insidious side effect of salinity was illustrated. On a property near Narrandera, four head of beef cattle died suddenly as a result of chronic salt poisoning. This occurred after rain, when the herd had been grazing in a salt affected paddock. It is believed that the beasts died after drinking from highly saline puddles (Landcare News, March, 1992).
Gully, sheet and rill erosion

Like other land degradation problems mentioned here, soil erosion has historical roots. In 1937, Francis Ratcliffe was commissioned to investigate erosion and soil drift. It is educational in today's terms of reference to consider what he wrote then on this subject.

We don't know what the problem really is. We don't know the true extent of the trouble; though it is reported that the carrying capacity of wide areas of country has been reduced fifty percent or more, and whole blocks are being abandoned on account of drift. (Ratcliffe, 1937, p.188)

All three types of erosion are caused by the effects of water washing away the soil surface. Gully erosion is the most obvious in Downside with an estimated total length of 32.7km of gullies identified by photo interpretation in the catchment (CALM, pers. comm, September, 1992). These range in severity from mild to severe and are defined here as between 20cm and 4m deep. Although less obvious in Downside, sheet and rill erosion are no less serious and do cause some landholders problems, especially on the steeper slopes. However, it should be noted that quantifying soil erosion is difficult and it is even harder to relate soil erosion to losses in productivity (Cocks, 1992). Despite this difficulty, officers of the Wagga branch of the Department of Conservation and Land Management have conducted long term experiments in the region. They deduced that for every ten tonnes of soil lost, 5% of the annual yield is forfeited. One alarming figure showed that soil was lost at the rate of 84 tonnes per hectare in some cases, thereby halving yields (Landcare News, February, 1991).

Water-logging

Associated with the effects of increasing salinisation and rising ground water tables, many local landholders in Downside describe this phenomenon as soggy soil. As a side effect, many plant species do not grow well with 'wet feet'. Con-
sequently, they are dying and some areas of previously accessible cropping land is going out of production. This is happening because the ground is too wet to get large machinery onto it without getting bogged, and landholders are loath to do so for fear of further eroding the delicate soil structure.

Tree death

Clearing in the area in the early 1900s gave rise to the extensive agricultural industry present in Downside today. It is also widely acknowledged to be responsible for many of the current land degradation problems such as increasing salinity and erosion. The remaining trees are very old and dying or represent regrowth areas especially along road-sides where they have been protected from stock. Lone trees in paddocks which have been used for stock shelters are slowly being removed and there is a general consensus that it will take a very long time before the beneficial effects of newly planted trees will take hold. Some landholders in Downside recognised this up to twenty years ago and began tree-planting then. However, many of the species planted were either non-native or if they were native species, they were not endemic to the area; an unfortunate occurrence in the eyes of the chairperson of the Downside Landcare Group. Tree planting at that time was more of an effort to increase the amenity value of individual properties than a planned strategy to overcome land degradation.

Despite a nursery being erected as one of the first Downside Landcare Group projects, the cost of planting trees still represents a significant deterrent to many landholders. This is especially true where it is necessary to fence out stock or erect tree guards, measures which are vital to the growth of new trees on any normal property carrying stock. According to a survey of biological features affecting rural tree decline:

The condition of the majority of remaining farm woodlots is now so modified and lacking in either diversity or regeneration capability that any new destabilising effects, such as periodic rises in insect population many rapidly destroy these areas, particularly if there is any added stress from drought or fire. (Burch, Graetz and Noble, 1987, p.44)

Nutrient decline; pests and weeds

Considering these two land degradation problems together may seem strange at first, but it is entirely appropriate given an historical context. Also known as a decline in soil fertility, nutrient decline was noticed in and around Wagga Wagga as far back as the 1920s (Swan, 1970). Potentially, it is now a severely limiting factor in Australian agricultural systems. In a study of the sustainability of current practices, Hamblin notes:

At a national level Australian agricultural practices are causing certain nutrients to become depleted. The evidence shows associated declining yields and quality factors (such as wheat protein levels) in some environments. These deficits are most severe where there is insufficient nitrogen input to compensate for crop and stock products removed from the farm. (Hamblin, 1991, p.36)

Back in the 1920s, a concurrent problem for cropping in the area was the introduction of skeleton weed referred to extensively in the historical profile above. Swan writes:

Repeated cultivation, indeed, made skeleton weed flourish at the expense of the crops. By the late 1920s, moreover, soil fertility was reduced by repeated cropping.

He continues:

In an effort to control skeleton weed experiments in the cultivation of nitrogenous plants were begun. Subterranean clover had been grown successfully both in South Australia and by Charles Ernest Prell of Gundowringa near Crookwell by the 1920s. In 1926, probably for the first time in the Wagga Wagga district, A.H. Seccombe, a returned soldier settler, grew subterranean clover in experimental plots on his property ‘Narua’ near Coursing Park, in conjunction with the Department of Agriculture. (Swan, 1970, p.174)

This particular quote is especially significant to the case of Downside, because ‘Narua’ is in fact the name of the property of the Chairperson of the landcare group. A.H. Seccombe was the first to settle the land in 1924 under a common law mortgage of the Returned Soldiers Settlement Act for the princely sum of 1 pound per annum. I find this a fascinating discovery in terms of how it relates to the
advent of acidity discussed above and as an illustration of the complexity of human interaction with the environment. To determine what action caused what environmental outcome is beyond the scope of this paper and indeed is such a complex field that many scientists have retired behind a veil of uncertainty and political safety. It is sufficient for the purposes of this study to state that the interaction between tree death, salinity, evapo-transpiration, water use, acidity and plant sensitivities is little understood, highly complex and indicative of the limited extent of knowledge about human interaction with natural Australian ecosystems.

Socioeconomic profile

Much of the socioeconomic data appearing in this profile is based on the 1991 census. Although the boundaries of the Downside Landcare Group and the ABS collection district do not coincide, (see Figure 8), they are sufficiently similar as to warrant extrapolation of the data. Neither the landcare district boundaries or collection district 151107 contain an urban centre and the demographic profile of both sets of boundaries is much alike. Therefore, I have used the collection district figures to give an overall impression of the socioeconomic profile of the area. The population of collection district 151107 however, is approximately three times higher than that of Downside itself, with 292 persons, more or less equal in numbers of men and women (ABS, 1991 Census, Catalogue No. 2722.1). The breakdown of the population by age is as follows:

It is interesting to note the two peaks in the population by age graph peaking at early middle age and childhood. This underscores the value attached to the family in the area, but does not explain why most rural sociologists are concerned by the aging population in country areas. It is possible that this is atypical and reflects the proximity of Wagga Wagga as a large regional centre. Rather than finding the expected median age somewhere in the late 40s or 50s, this figure reflects quite a young population, although notably without the twenties cohort. The out-migration of young adults in the area is reflected in the interview data, as well as being recorded in demographic profiles of Australian migration patterns (Bell, 1992; Salt, 1992). Most of the adult population are married and all of them speak English at home. Interestingly, 85% of the population list their religion as one of the Christian denominations, the top three being: Catholic, Anglican and Presbyterian. Lutheran affiliations was mentioned by only a handful of people which may reflect the difference in boundaries between Downside and the collection district. It is impossible to describe this level of specificity from the data available.

In educational terms, 24% of the total population are attending primary or high school, with a further 9% engaged in post-secondary education. Of the population over 15 years of age, 64% are not qualified and 37% left school at or before they were 15. Regarding employment, of the total labour force in the district, 89% were employed and 7.5% were unemployed. There were an additional 54 persons who were not in the labour force, nearly half of
whom were 15-19 years old. Not surprisingly, of all employed people, half were employed in the agriculture, forestry, fisheries and hunting industrial code, and nearly half described themselves as managers and administrators. It is a reasonably safe assumption that many of these people are farmers. Of all employed people, 68% worked 40 hours or more per week. Interestingly, however, only a third of all employed persons described themselves as being self-employed, with over half classifying themselves as a wage or salary earner.

Annual family incomes varied from a low bracket of 0 - $3,000 to a high bracket of $80,001 - $100,000 per annum. The median annual family income is $25,001 - $30,000. Other median statistics are shown in Table 4.

Compared with other rural districts in NSW, CD 151107 is quite typical of that rural population, other than being a little less financially advantaged. Other facets which differentiate this CD are: there are no people of Aboriginal descent compared with 1.4% in other rural NSW areas and the proportional percentage of people affiliated with Presbyterian and Lutheran churches is a little higher.

**Issues arising**

Some socioeconomic issues arising from the profile of the area require further explanation here. In Downside, population characteristics have changed over time and with the advent of increasing property size. Decreasing numbers of rural
holdings is evidenced all over Australia. Whereas in 1950 there were 203,350 agricultural establishments in Australia, there were 126,543 in 1987 (Australian Bureau of Agricultural and Resource Economics, 1989). While a change in the way that agricultural establishments may account for some of the decrease, it is generally true that smaller properties have decreased in number. However, there is also a trend toward increasing numbers of hobby farmers. Certainly in Downside, it is apparent that hobby farmers and absent neighbours were an issue with members of the Downside Landcare Group to the extent that the quality of life in the two valleys has changed. Decreasing numbers of working farms, and increasing numbers of hobby farms has meant that there has been a change in the number and type of people living and working in the area. Rural sub-division as a phenomenon arising from this change in demographic characteristics has created much conflict in the Downside community. This issue is discussed further below.

The fact that there were fewer people in their twenties in Downside also affected the quality of life in that community. Many people commented that since labour patterns had changed and farmers were no longer able to employ young people, life in the valleys had 'become flat'. When high school students finished their education, there were no longer as many young people coming back into the community compared to the number leaving to find jobs in the cities and larger regional centres. Salt comments specifically about this out-migration of young adults from southern NSW.

Farm aggregation permitted by mechanisation, and the increasing demand for tertiary education, both serve to underpin steady flows of net migration loss... The demographic composition of those moving to and from regions support these themes... Those moving out comprise all age groups, but especially young adults (school-leavers and a disproportionate number of young women). Migration flows do occur in the opposite direction, but here the flow is dominated by children and their parents, possibly escaping the high cost of living in expensive capital cities. (Salt, 1992, p.66)

A related issue is that of Downside's proximity to Wagga Wagga and the associated dependency on the larger centre for shopping, recreation and social activity in general. One person commented that since cars and more efficient road networks had been constructed, people left the smaller communities looking for more excitement 'in the big-smoke'. This tended to leave smaller rural communities, such as Downside, without a social core.

Perhaps the most significant economic issues in Downside are the effects of the agricultural cost-price squeeze on landholders and farm debt. Many landholders spoke about their inability to become involved with the landcare group due to the high cost of fencing or the cost of lime in relation to their incomes. Others spoke strongly about their abilities just to stay on the land, let alone improve it - either economically or environmentally. The effects of the financial crisis many farming families are experiencing seem to have made an impact throughout the Downside community. For example, some interviewees spoke about higher stress levels in the community, reduced leisure time or conflicting family and employment priorities. This is partially born out by publications investigating the effects of the rural downturn on the lives of country people, (see Bryant, 1992 for a recent update on this).

To place the Downside economic profile within a wider geographic context, consider the following figures derived from the latest report of Farm Surveys written by the Australian Bureau of Agricultural and Resource Economics, (ABARE). Twenty two percent of mixed livestock-crop farms in New South Wales are not expected to earn a positive farm cash income in 1992-93, however "farms in all states are expected to record an improvement in average farm business profit". The report specifies:

When allowance is made for the value of changes in inventories, for depreciation of plant and improvements and for the value of the labour of farm proprietors and the members of their families, average farm business profit is forecast to be $1200 per farm. (ABARE, 1993, p.28)

The following table, derived from the same source, further clarifies the NSW depiction of the mixed livestock-crops industry typical of the Downside area, providing a picture of the average farm.
Table 5: NSW Mixed livestock-crops industry in 1991-92

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total area</td>
<td>1404 ha</td>
</tr>
<tr>
<td>Wheat produced</td>
<td>185 tonnes</td>
</tr>
<tr>
<td>Total area harvested</td>
<td>245 ha</td>
</tr>
<tr>
<td>Sheep shorn</td>
<td>2,248</td>
</tr>
<tr>
<td>Sheep sold</td>
<td>820</td>
</tr>
<tr>
<td>Beef herd</td>
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<tr>
<td>Total cash receipts</td>
<td>$161,610</td>
</tr>
<tr>
<td>Total cash costs</td>
<td>$128,170</td>
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<tr>
<td>Farm cash income</td>
<td>$33,440</td>
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<tr>
<td>Farm business profit</td>
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<td>Off-farm income</td>
<td>$9,1000</td>
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<tr>
<td>Farm liquid assets</td>
<td>$40,1800</td>
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Main sources of cash receipts
- Beef-cattle sales
- Wool sales
- Wheat sales
- Other crops sales

Main sources of cash costs
- Other services
- Interest
- Repairs and maintenance
- Fuel, oil and grease

Historical profile

To Jack

The history of Downside has never been chronicled specifically. Hence, much of the following profile has been extracted from a number of regional sources which have a similar history to that of Downside. Two such histories play an invaluable role in this analysis: Keith Swan's *A History of Wagga Wagga*, published in 1970 and W.J. Garland's *The History of Wagga Wagga*, published first in 1913 and reprinted in 1984. I have also collected primary data from an in-depth interview with a prominent local figure (Jack) who was born in the first half of this century and remembers much of his father's stories and agricultural practices. This section is therefore dedicated to him.

Floods, droughts, Aboriginal folklore, pioneering farm families, explorers, notable gentry and coursing all form a peculiar part of the history of the Downside region. While much of this is typical of the histories of other parts of the NSW south western slopes, the quaint nuances and details of Downside history bring the district alive with past events, scandals and everyday trauma. For the purpose of this analysis, I have arbitrarily divided the history of this region into four 50 year time slots from 1800 - present. To preface the first section, I have quoted Eric Schlunke, a writer of fiction in and around the Riverina region who eloquently captures many of the local legends and transforms them into dry social comment.

1800 - 1850

We were quite pleased when a band of aborigines turned up. We were not afraid of them; in fact, Harry and I always got on very well with them, and managed to make ourselves understood when the grown-ups couldn't. But we felt sure that we could use them to frighten the daylights out of Alfred. We brought him out of the house, where he was hiding, by force, and showed him to the blacks. (Schlunke, from "Alfred", 1958, p.12)

The Aboriginal history of the whole Wagga Wagga region is documented only with reference to that culture's impact on the European exploration or 'invasion' of the area. Both the above mentioned histories provide some detail of early white experience with the Wiradjuri peoples, a widespread Aboriginal group in the Riverina region. The earlier history is limited to two paragraphs and makes it known that "There are no records at Wagga of such 'native treachery' as was displayed at Gundagai in 1845" (Garland, 1913, p.2), but the implication remains. The other important feature of 'native' history was the Murrumbidgee River and the significance of a waterhole named Gobbagumbalin, "a word meaning 'plenty of fish'" (Garland, ibid.).

Swan's description of the Aboriginal settlement of the area is more favourable, but just as limited when compared to the rest of his book. Interestingly, he discusses much of the ecology of the area as it related to Aboriginal habitation, noting seasonal variations in diet and the effect of Aboriginal lifestyle and culture on the landscape:

Kangaroo provided food for large numbers, the Aborigines preferring the head as a delicacy. One way in which scheming male Aborigines conserved kangaroos was by preventing females from eating the flesh be-
cause they said 'our dogs would die'. Perhaps for a similar reason women were not allowed to eat bandicoot flesh until after the birth of the first child. (Swan, 1970, p.7. citing George Bennett's Wanderings in New South Wales, volume 1, 1834)

There is much recognition nowadays about the way in which Aborigines managed both plants and animals in their landscape (Dovers, 1992). Bill Gammage, a well known historian of the Narrandera region, also writes of Aboriginal environmental management and farming. He says that for every area, a keeper, or man of authority in the group was appointed to manage the surrounding landscape and protect it from 'needless exploitation' (Gammage, 1986). Apart from the well documented use of fire management techniques to clear plains, Aborigines also were protectors and conservers of seeds, plants, animals or any species under threat. This ethic of protection also extended to soil conservation. If true, an alarmingly accurate anecdote should have provided a warning to European farmers years ago.

Species were declared protected if the seasons threatened them, and soil erosion was controlled - Wiradjuri warned Mary Gilmore's father that European carelessness was destroying the soil, and that in time it would become valueless. (Gammage, 1986, p.20)

Another noteworthy discussion is mention of Aboriginal contraction of small pox. According to Sturt cited in Swan, small pox was likely to have originated from carriers aboard the first fleet. Charles Sturt's diaries from 1830 describe the Aboriginal population; "the most loathsome diseases prevailed among them. Several were disabled by leprosy, or some similar disorder, and two or three had entirely lost their sight" (Sturt, 1833 cited in Swan, 1970. p.6). Gammage, too, notes the affect of small pox on the Wiradjuri people. In strongly descriptive language, Gammage writes of the disease which 'scythed away entire clans and totems' and about the death birds which 'called hundreds of souls into the bush, stilling the campfires of a thousand generations'. He believes that between 1789 and 1829 when Sturt first came through Wagga Wagga, perhaps 60 per cent of Wiradjuri people had already died (Gammage, 1986, p.25).

Both Swan and Garland talk of the Aboriginal settlement of the Wagga region in terms of a very sparse population. Although Swan does mention that small pox may have played a part in diminishing the numbers of Aborigines in the area, and that it was very hard for Europeans to discern an Aboriginal presence, ("they could melt into the landscape and not be observed", Swan, 1970, p.5), neither of these observations deterred that author from his conclusion:

No census of Aborigines was ever taken, but an estimate of no more than 1,000 for the Wiradjuri tribe in 1830 seems accurate (Swan, 1970 p.5)

Indeed, Swan's first chapter title 'A Fine Country Wanting in Population', reflects the popular notion of that era, that the area in and around Wagga Wagga as it is today, was perfectly suited to European use, with little or no thought to the needs or prevailing culture of the existing indigenous population. According to Read who has undertaken a comprehensive study of the Wiradjuri people, in 1788 there were 3000 Aborigines in Wiradjuri country. Wagga Wagga is situated near the southern border of an area which reached as far north as Dubbo, east to Lithgow, west to Hay and south as far as the Albury River (Read, 1988). The prevailing notion of that era however, was how it could be used for white settlement:

The Country is perfectly level and well adapted for cultivation... The ground is perfectly level and sound... and it will be impossible to err in arranging the streets. (Surveyor Townsend, 1848, cited in Swan, 1970, p.1)

Gammage, however, notes the inconsistencies in observations of populations of Aboriginal people. He says, 'all the evidence suggests a large population, much reduced by disease just before Europeans arrived, and by war soon after' (Gammage, 1986, p.19).

White history of the period from 1800 to 1850 shows there was a period of exploration in the 1820s followed by European settlement in the 1830s and 1840s. The township of Wagga Wagga was declared in 1847 and agricultural land around the area was 'opened up' by a handful of station owners during this period (Garland, 1913, p.4). Cattle, sheep and wheat were all produced in the area before 1850, but according to Swan, "it was a frontier society, with
some human material of poor quality”. I could find no reference to any settlement in Downside during this first half century.

1850 - 1900

When the public began to feel that Wagga Wagga was one of those envied places which would inevitably have greatness thrust upon her, there arose a sort of quixotic crusade against the name of the town in favour of substituting something more pleasing and significant to the sense; and a worthy, learned and reverend lecturer, a Dr. Tucker, called a monster meeting to debate the propriety of exchanging the savage patrimonial for that of Alexandrina. (Anon, cited in Swan, 1970, p. 81)

Marrar and ‘Gobba’ stations, (referred to as Gobbagumbalin above), were two of the stations on the north bank of the Murrumbidgee which contributed to the “tremendous pastoral expansion” (Swan, 1970, p.100) typical of this era. There was a “great rush for selection areas” around the whole of the agricultural district of Wagga in the 1860s for land which had previously been leasehold land taken up by pastoralists (Garland, 1913, p.14). The first schools, hospitals, banks, churches and newspaper establishments all got underway in Wagga Wagga in the early part of this period. The municipal council, water supply, flour mill, railway, court house and gas works were built.

In Downside specifically, Jack remembers several local farming families who first became established in the area during the late 1860s. At the same time, there was a pub built in the area, handy to Wagga as it was within one bullock team’s drive away from the expanding rural centre. According to Jack:

About 1870, title seekers would have settled here. Each person had [was entitled to] 640 acres - for example, [a family of] Grandpa and Grandma, a husband and wife could each have had a house built on the corner of their block. Originally squatters selecting their properties had to sleep on their land. So for the four corners, there was one house in each place to get more land.

More land was indeed what the ‘wool kings’ sought. In a fascinating expose of squatters, shearsers and their conflicts, Gammage writes of the unionisation of both these groups. In 1887, a branch of the Amalgamated Shearers Union (ASU) was formed in Wagga from an existing smaller union. Around the same time, the Commercial, Pastoral and Agricultural Association, a union of squatters, selectors and merchants formed under the banner ‘Union is strength’ (Gammage, 1986, p.92). Soon after, the 1890 strike pitched both shearers and squatters into serious battle with the result that the Wagga Wagga court house was full and the general depression started throughout the Riverina putting hundreds of workers out of a job and into the life of itinerant swagmen.

As the end of the century approached throughout New South Wales, ‘progress’ was underway:

As the railways spread, as the wheat industry was mechanised, as the cream separator and refrigeration encouraged dairying, so the small farmers became of increasing importance in the 1880s and 1890s, particularly in the south-west slopes and Riverina. (Jeans, 1988, p.9)

1900 - 1950

That the Mortgagor will repay to the Minister with interest thereon at the rates aforesaid all such sums advanced or which may hereafter be advanced to the Mortgagor and hereby secured for -

a) the purposes of clearing fencing, draining and the water supply and general improvement of the said land and erection of buildings thereon...

That the Mortgagor will from time to time take all necessary steps for keeping down and destroying all rabbits and other animal and insect pests and for exterminating all prickly pear and other noxious weeds and all herbage pests from off the said land and for cutting and keeping down all undergrowths, suckers and scrub that might interfere with the enjoyment of the said land. (Mortgage documents supplied by an interviewee at Downside, September, 1992)

In 1900, Gobba station was share-farmed by 42 families. When it was sold in 1907, it was publicly sub-divided (by ballot) and many of the original share-farmers stayed on their land. As a boy, Jack’s father came to Downside in 1908 with his step-
grandfather. Jack describes the land as his father had described it to him:

There was native cypress pine, a bit of kurrajong, yellow jackets (yellow-box), grey box and red hill gum, wattle and bull oaks (wild oaks)... I remember Dad had a bloke clearing trees, but he never had to move his camp or his tools. These big box trees, [were felled] - it was all done manually.

After the war, Jack’s father returned to Downside in 1921 as a returned soldier and acquired “Maddi”, the property on which Jack grew up and is now still farming. For this period, I found it especially interesting to consider life as Jack remembers it and so have transcribed his memories in full. Please note that some real names have been replaced with fictitious ones.

After 1907 when [the land was] divided up, it made the community then. The Downside Church was originally built in the early 1900s - they’d have had church services at Rapley’s place with whoever was about before then. Then the Hall was built in the 20’s when things got going. Dame Mary Gilmore’s father went to school at Downside, it was quite big in those days, it opened in 1890 and closed in approximately 1937.

The Coursing Park school opened up in 1929 and in 1939 it moved to where the K’s now live, and it was kept up until 1971. There was a reunion in 1989. We had four of the old teachers and of the original first class, there were still about five left. Oh the talk - you’d went a week [talking]. Old Dave -dumb but willing, now drives a big car and it takes three turns just to get out of the driveway.

As the community grew and families settled in, there was a church, school and hall, but no-one really knows where Downside name comes from. But there is a Downside in England - it might have been the first publican was from there. The area Downside encompassed Coursing Park, well it was just a farm name then - it came from racing dogs with live hares. There was the old homestead here in 1931 - people were here up to then - but the gully used to come and flood it every year. There were old newspapers lining the ceiling dated 1872, as kids we climbed up there and found them - so it must have been built in the late 1860s or so.

Coursing was a sport somewhere between hunting and racing. It relied on greyhound dogs chasing, or coursing, live hares with a points system for the winner. It is likely that the sport was introduced in Downside before the turn of the century, around 1880 and may have continued there for perhaps two decades. Unlike the rabbit, who wreaked havoc upon the landscape, the hare was not destined to abuse the landscape to the same extent.

When I was a boy, I can remember the country much as it is now, except there were no improved pastures. [There were] horse teams, I remember the first tractors, there was almost all wheat cropping, very few sheep, much more erosion. It was caused by the first clearing and ploughing - [they would] fallow in the winter and keep the soil loose, then plough the fallow, crop half and fallow half. The cropped half would then be burned stubble. And people didn’t know anything about ploughing across the land, they would plough down the slope.

With the introduction of large scale wheat farming in Downside, Davidson notes that paddock size would most likely be decreased, with grazing remaining on the higher slopes (Davidson, 1976). A typical rotation would have been; ploughed fallow, wheat, oats. Davidson’s description of wheat farming bears out Jack’s description, and brings it into the larger picture of wheat farming in Australia:

In early spring, the arable land was a mixture of red fallowed fields and green paddocks of wheat and oats. By late spring the crops were in head and the sea of waving oats and wheat changed from green to brown. Harvest in early summer left the brown wheat stubble fields, which persisted through the autumn until they were ploughed and sown again to oats. The ploughed fallow was sown to wheat in autumn and the uniform green of wheat, oats and native pasture was broken only by the brown stubble of last year’s oats, until it in turn was ploughed as fallow in the spring. (Davidson, 1976, p.75)
There was a bloke - between Wagga and Nar­randera who lived near the river and fish and lobsters were plentiful, he would catch fish and keep them caged up in the river. In 1915 there was a terrific storm up Junee way, Houlaghan's Creek flooded and because of the way they were cultivating the paddocks, it washed a wall of mud down and raised the river and killed all the fish. Some people picked up the big fish and carted them off to outlying areas - but it was years before there were any big fish, just the little ones survived. But that would never happen again. Every yard there were dozens of fish dying, an example of the way they used to cultivate the ground. I do remember we used to get a lot of thunderstorms and all the gullies ran in the 30s with red mud washing down.

The red mud, came from badly eroded paddocks where soil loss had been compounded by ploughing, fallowing and clearing practices of the early twentieth century. The 1915 storm was preceded by a drought in the previous year and a dust storm in the January of 1915. It was recounted by Mr Alby Armstrong:

The first intimation that something was brew­ing was when a telegram was sent out from Grong Grong to towns along the South West line at 4.15pm. It read: 'Pitch dark here - Dust Storm Raging'.

To those who saw the storm approaching, it was a fearsome sight, Deep purple in colour, it rolled over and over in giant clouds, like a giant surf in a gale.

As it reached the town darkness immediately descended. The dust which seemed like fine gravel, could be heard whistling around the houses as the storm raged, the eerie sound being added to by the moaning of the wind in the telephone wires, and the whinnying of ter­rified horses harnessed in their sulkies in the streets.

All work came to a stand still and some people expressed the opinion that the end of the world had come. Worried mothers herded their children into one room and any available kerosine lamps were lit.

Absolute darkness continued for more than ten minutes, then conditions gradually im­proved, but it was after 9 pm before the dust began to settle. (Armstrong, 1979, p.43)

It was little wonder that red mud clogged up the river and all the fish died. Jack continues his story:

I remember when the wireless came in - we al­ways had a car and a telephone - although our neighbours didn't. Farm wives didn't work in town - they worked on the farm of course. But now a good half of the women in the district work in town. Back in the 20s, people did everything themselves - made butter, bacon and ham - dry salting and smoking it (my sister and I almost burnt down the smoke shed once), and corned beef. And no-one had TV, refrigeration, electricity, and everyone would work on the farm. [There was] wood for stoves, no fuel costs, and labour was very cheap in those days. People only needed money for flour and plough shares and tea. People did their own bottling - the orchards did well in those days, there weren't the dis­eases about.

Again, it is instructive to interrupt Jack's account of the history of Downside and relate it to the wider picture. As Davidson notes, the introduction of the motor car in the 1920s was to change the rural Australian landscape markedly: 'With shorter travelling time, fewer towns were needed. The first victim of the motor car was the hotel halfway be­tween towns; most of them had vanished by 1930's (Davidson, 1976, p.79). Jack laments the passing of an era enshrined in simplicity, self-sufficiency and hard work. But it wasn't all such a romantic rustic retreat. It was a hard life too.

Rabbits were already here, they got bad in the late 1800s. As kids in the 30s, one of us would count the black rabbits and my sister would count the yellow rabbits and there were too many grey ones to count. There were hundreds coming in for water, we could count them from the verandah. And skeleton weed came in the late 20s and early 30s. Its sup­posed to have come in from chaff imported from overseas in drought time, maybe in the 1919 drought. It was a novelty for a start, but then it spread. Nowadays, its coming back a bit. before it was almost gone. Originally they
used to spray it with 24D - it would knock it back in the crop, but wouldn’t kill it. [It made] excellent stock feed. [There is a] long root that goes down 20 - 30 feet, a milky, rubbery root with a rosette stage at the surface then a bare shoot with little leaves. The fresh shoot was good for sheep - buyers used to like it in the sale yards, the sheep would get sap around their bottom lip and dirt would stick to it. Then when it got stringy, it would kill horses, bind up in a ball inside the horse and kill it, and it was very bad on machinery, very tough, the twines would wrap around everything and things would start busting.

Pests have appeared as threats to Australian agriculture since the industry first started here. Eric Rolls, in his well known book They All Ran Wild (1969) spoke at length about rabbits as pests in rural Australia. Although a pest from the moment they were released into the wild, in Downside, they reached peaks in population for at least seventy years afterwards. As for skeleton weed, it was a large feature of the local landscape. First noticed in the district in 1914, by 1930 it had spread to every farm in the surrounding area. Some drastic measures were called for including chemical spraying with sodium chloride. However, it was too expensive an option for many farmers. However, the application of salt ‘in large quantities was effective, but killed out everything else’ (Armstrong, 1979, p.44). A particularly interesting parallel to the Downside Landcare Group was the Wagga Wagga Skeleton Weed Committee who were formed at that time. According to Armstrong, the Committee invited the then Minister for Agriculture down to the area. After inspecting only a handful of properties, he proclaimed a reward of five thousand pounds ‘for any practical method which would eradicate the weed’ (Armstrong, 1979, p.44). None, however, was forthcoming. After a while of little success, the Skeleton Weed Committee ‘had a lot of unjust criticism levelled at it, and its members were blamed for the slump in values [of land]. It was claimed that the publicity given to the Skeleton Weed by the Committee had made the land in the district worthless’ (Armstrong, 1979, p.44).

1950 - present

“We went for a car trip last month, and dropped past to see the old place.” He paused for a while and I could see a vein pulsing in his brow that didn’t look too good for his blood-pressure. “It’s all torn up, hillsides and all, and sown to wheat. It will be an eroded ruin in a few years.” (Schlunke from “A House in the Country” in Stories of the Riverina, 1965, p.118)

There’s a dozen different places round the district where you’ll see a pepperina growing and a camphor laurel tree, And a pine-tree, not a native, and a fence which leans in need, Round a garden bed that struggles ‘neath a wilderness of weed; There’s a flagpole still upstanding, but not flag to flutter free, Not a soul to stand saluting, where the bush school used to be. (Mangan, from “Where the bush school used to be” in Armstrong, 1979, p.90)

Jack continues:

Then wool boomed in 50 and 51 and people went in for more sheep - that knocked back the skeleton weed and people would sow subterranean clover. Then in the 60s when people started cropping again, the country was fresher and when sprays started, and rust came in, it knocked back the weed altogether. But now I’ve seen it coming back. I think it might have developed an immunity, I’ve seen it recently... but we might have cultivated it for sheep, it was quite palatable.

When we were married in 1952, Mum and Dad went to live in town. Mum was a great gardener - anyway she discovered slugs and snails in town, there weren’t any on the farm then, but they’re certainly here now. Thursdays there was a sheep sale and the next Thursday, a cattle sale in Wagga. Everyone would go to town early and come home late at night, we’d have a few drinks at the Pastoral Hotel with someone and then a few drinks with someone else and people would sit [outside] on the high kerbs and sit and talk and drink. These days they’d be taken away for vagary. Those people are gone now - in those days they did things their way, now people conform.
A new school opened in Downside from 1952 to 1967, because there were enough families in the district... But the school and the Tennis Club [when it] started at Coursing Park, - that made the district. You're always working for something for the school - for curtains at card parties [for example]. It kept the community together. [When the Coursing Park school closed, the Wagga school] bus changed life here. You had to get there [to the bus-stop] at five to eight no matter what. But at Coursing Park, it didn't matter so much, we weren't regimented - [it was] very casual.

I got friendly in the 70s with a family of New Australians - Dutch men. The boys would come out and they've never seen a farm before, they grew up without any relations - they spoke perfect English, but the parents were hard to understand, a heavy accent. The young ones - you couldn't pick their accents, but old Irish men and people who were stuck up country with their parents, you could cut their brogue with a knife. People who were brought up in the bush still have heavy accents. I'd like to be transported back to those days - people had more time to talk, people never worked on Sundays and there were more people around to help work - but I wouldn't like to stay there.

Jack's history of Downside is a very personal one. His impressions and perceptions of Downside, reflect his attachment to the area throughout his life. But his contribution goes beyond being merely interesting when considering the environmental history of the area. He first experienced salt in 1939; "yes, it was a big wet year and we first really noticed it, and in the 1940s with the horses. Where there were a few salty patches, the horses would lick the ground, and again in the 1960s". Other people too noticed salt in the area as far back as 60 years ago. One older man told me that Paddy's Creek was saline when cars first drove out to Downside. His family would drive around the long way to avoid going over Paddy's Ford to avoid rusting the car out. These personal insights and 'living histories' seem to bring Downside to life as it was 'in the olden days' and give new meaning to the context in which the Downside Landcare Group work.
Biophysical profile

Location

The Mitchell River Watershed is a vast area of some 72,000 square kilometres. According to the first brochure printed by the MRWMWG, it starts "in the Atherton Tablelands behind Cairns, it travels some 500 kilometres to cross Cape York Peninsula at its widest point and drains west into the Gulf of Carpentaria" (MRWMWG, 1991). Figure 4 gives an overview of the geographic location in relation to the catchment boundary (Queensland Department of Primary Industries, 1993). Figure 5 shows the distinct demarcation between the headwaters and the flat land in the catchment. Apart from some rainforest in the north east corner of the catchment and the coastal regions in the west, the catchment is relatively uniform (Gilbey, 1990).

Climate

The Mitchell River Watershed has a humid to sub-humid tropical climate with well defined wet and dry seasons. In *Lands of the Mitchell-Normanby Area*, Gunn notes that approximately 95% of rainfall in this region falls between November and April, with the highest rainfall occurring in January and February. In the dry season there is an average of 7 rainy days with a total rainfall during this period of less than 2 inches (50.8 millimetres) (Gunn, 1970). According to some residents, there is an annual drought in the dry season and a flood in the wet. They were making the point that what the rest of Australia tends to label floods or droughts are regular occurrences in Cape York to which agricultural and grazing systems must adapt.

The climate is not uniform throughout the watershed. Table 2 provides an overview of the median monthly rainfall and mean maximum daily temperatures in three locations; at the top (east), in the middle and at the bottom (west) of the catchment. Figure 6 illustrates this more effectively showing annual precipitation rates across the catchment using digitised rainfall data. Lastly, it should be noted that the catchment has been known to be subjected to tropical cyclones, however, there are few on the Gulf coast of Cape York than there are on the eastern coast (Connell and Wagner, 1989).

Hydrology

There are five main rivers which contribute to the Mitchell River Watershed; the Mitchell River, the Palmer River, the Lynd River, the Alice River and the Walsh River. In addition to these main rivers, there are numerous creeks and streams which combine in the wet season to "carry some of the largest water volumes of any system in Queensland" (Connell and Wagner, 1989, p.48). Indeed, the Mitchell River Watershed (Basin No 919) is the largest in Queensland in terms of total water discharge into

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Table 2: Climatic variables in three locations in the Mitchell River Watershed

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(Adapted from Gunn, 1979)

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Extracted from *Catchment co-management: the case of the Mitchell River Watershed Management Working Group* (Carr 1993d)
the river basin. The mean annual discharge is 11,998,000 megalitres. The maximum amount feasibly diverted without economic consideration is currently 16% or 1.89 million megalitres. There are three weirs in the catchment, all on the Walsh River which hold a combined total of 2,400 megalitres (Department of Primary Industries and Energy, 1987). The amount of water diverted into Lake Mitchell, or the Southedge Dam as it is commonly referred to, has not been factored into this analysis. Another point of note here is that irrigators farming in the headwaters of the Mitchell River Watershed use water from the Tinaroo Falls Dam which is fed from water out of the Barron River Catchment.

In terms of ground water hydrology, the majority of the catchment falls into the Great Artesian Groundwater Province and is identified as predominantly sedimentary rock. The remainder of the catchment is covered by the Tasman Groundwater Province and is identified as predominantly frac-
Geology and soils

In broad terms, the region can be divided into an area of uplands, which are being eroded by the river and its tributaries, and the Gulf lowlands, which are covered by sediments derived from this erosion (Withnall, 1990, p.1)

Lands of the Mitchell - Normanby is still one of the best sources of information about the geology and soils in the catchment. According to Galloway, Gunn and Story, (1970) there are five distinct physical regions in the catchment which are illustrated in Figure 7 and explained further below.

i) Eastern highlands; where "the relief is mainly hills and mountains on folded sediments but includes extremely rocky mountainous areas on granite and volcanic rocks" (Galloway, Gunn and Story, 1970, p.9). Where the rainfall is higher and vine forest predominates there are small areas of deeper soils, however the majority of this region is typified by shallow lithosols (Isbell, 1980).

ii) Central uplands; which "consists of undulating country on weathered and fresh metamorphic and granitic rocks" (Galloway, Gunn and Story, p.10). Precambrian metamorphic rocks and granite outcrops occur in a belt through the centre of the area. Folded greywackes and other sediments are also a feature of this area. Around the Chillagoe and Mungana area are a series of spectacular limestone rocky outcrops rising up to 300ft in the air. Soils of this area are predominantly gravelly yellow and red podzolic soils with some yellow earths (Isbell, 1980).

iii) Western plains; which comprises a large portion of the bottom half of the catchment. "It consists mostly of sandy or loamy plains on weathered terrestrial sediments laid down in Tertiary times, slightly dissected in most areas by shallow valleys, and often pitted by shallow closed depressions"
(Galloway, Gunn and Story, p.9). Underlying these is a mixture of unresistant cretaceous shale, siltstone and claystone, often deeply weathered and partly calcareous. Soils of this area are sandy red and yellow earths with drainage depressions characterised by solodic soils and grey earths (Isbell, 1980).

iv) Lower Mitchell plains; where alluvial sands, silts and clays occur all below 250 feet above sea level and were deposited as deltas and flood plains at various historical times by the main rivers. To cope with the huge volumes of water which flood across the plains every wet season is a lattice of "channels, levees, back plains, and back swamps on the younger parts" (Isbell, 1980, p.9). Soils in this area are typified by either massive earths or red, brown or black duplex soils (Connell and Wagner, 1989).

v) Coastal plains (of the west), these occupy a minor area on the coast of the Gulf of Carpentaria and are "developed on young marine and fluvial clays and on low sand ridges a few feet high that run for long distances more or less parallel to the coast" (Connell and Wagner, 1989, p.9). Soils along the coast are mainly finely structured clays or saline clay soils (Connell and Wagner, 1989).

In summary, soils of the Mitchell River Watershed are closely related to the underlying geology and lithology - the chemical and physical characteristics of the parent rocks. The surface structure, or relief of the catchment is also closely related to the underlying geology which is largely comprised of igneous and metorphic rocks laid down in the Mesozoic and Cainozoic eras (Connell and Wagner, 1989).

In terms of mineral deposits, there have been both alluvial and hard rock deposits of gold and tin mined in the watershed. In addition, deposits of tungsten and copper have been mined from hard rock sources and coal was mined at Mt Mulligan in the early 1900s (Withnall, 1990).
Vegetation

Story has classified the vegetation of the Mitchell River Watershed into two distinct groups; vine forest and woodland regions. However, the area of vine forest is extremely limited and is confined primarily to the north east corner of the catchment east of Mount Molloy. Woodland essentially covers the remainder of the watershed and is predominantly made up of *Eucalyptus* and *Melaleuca* species. The understorey is comprised of mid-height grasses or scrub. Open savannah is a feature of the western plains and there is an extensive wetlands system on the main rivers. In more detail, Story has attributed the following vegetation types to various land systems existing within the boundaries of the catchment:

- Bloodwood-stringybark woodland
- Paperbark woodland
- Evergreen mixed scrub
- Grassland and savannah
- Paperbark scrub
- Ironbark woodland
- Mixed eucalypt woodland
- Deciduous scrub
- Mangrove scrub
- Bare areas
- Box woodland
- Gum woodland
- Vine forest.

Briggs and Leigh have compiled a list of rare or threatened plant species of Australia. There are many species listed inside the watershed as either rare (15 species), vulnerable (10 species), endangered (2 species) or with insufficient knowledge to confer a status (7 species) (Briggs and Leigh, 1988). In addition, there are a further ten species recorded inside the watershed which do not appear in Briggs and Leigh's summary (McDonald, pers.comm, October, 1993). It is important to note that some of these species are endemic to the area. However, generally speaking not enough base-line information is known about vegetation in the catchment to make accurate appraisals of the area.

As mentioned above there are significant wetlands in the catchment. Included among these is the...
Mitchell River Fan Aggregation, listed in the *Directory of Important Wetlands in Australia* as the largest alluvial fan system on western Cape York. The criteria for listing this wetland 'important' include considerations of its representativeness as a good example of a wetland type and its rarity. The criteria also stipulate that the Mitchell River Fan Aggregation:

- is a wetland which plays an integral ecological or hydrological role in the natural functioning of a major wetland system/complex.
- is a wetland which is important as the habitat for animal taxa at a vulnerable stage in their life cycles, or provides a refuge when adverse conditions such as drought prevail (ANCA, 1993:1-3).

In addition, the Directory has listed this wetland in recognition of its cultural and recreational values. The wetland is of outstanding historical or cultural significance, especially to indigenous people. The wetland is particularly important for education, research, recreation or has outstanding aesthetic value (ANCA, 1993:1-3).

Also listed in the Directory of Important Wetlands, is the Spring Tower Complex near Chillagoe.

Fauna

There has been no comprehensive study of fauna of the Mitchell River Watershed. However there have been individual studies of significant faunal groups such as birds, bats, fish and crocodiles - often in relation to affinity groups between the Cape York Peninsula and the Papua New Guinea region. There has also been research into patterns in numbers of species across geographically distinct areas such as the Cape York Peninsula (Pianka and Schall, 1981). Accordingly, I have spoken to one of the officers of the Queensland Department of Environment and Heritage who is a member of the Mitchell River Watershed Management Working Group. He provided me with the following information about mammals and birds and pointed out that there had been very little research on reptiles and amphibians (Hensler, pers.comm 20-10-93). Please note that the codes stipulate the status of the species. Potentially vulnerable (pv), endangered (e), rare (r), vulnerable (v) or with insufficient knowledge (ik).

Mammals

- Platypus (pv)
- Tiger quoll (pv)
- Rufous bettong (pv)
- Northern bettong (e)
- Musky rat kangaroo (pv)
- Spectacled hare wallaby (pv)
- Greater glider (pv)
- Yellow bellied glider (pv)

Birds

- Crimson finch (ik)
- Buff breasted button quail (ik)
- Gouldian finch (e)
- Southern cassowary (v)
- Red goshawk (v)
- Cotton pygmy goose (r)
- Beach thick knee (v)
- Golden shouldered parrot (e)
- Sooty owl (r)
- Rufous owl (r)
- Powerful owl (r)
- Star finch (r)

Reptiles

- Reduced limb skink (ik)

Amphibians

*Taudactylus acutirostris*

The above information was compiled and reported by officers of the Department of Environment and Heritage in personal communication based on atlases of species at risk in Cape York.

The Golden shouldered parrot and Buff-breasted button quail are endemic species to Cape York and as such are especially important in terms of conservation value (Wildlife Preservation Society of QLD, 1990). In marked contrast there are several introduced faunal species which are regarded as pests in the catchment; feral pigs, feral horses and feral cattle (Hardwick pers. comm 2-7-93). Also there have been occasional sightings of foxes and rabbits in the catchment (Mamane pers. comm. 20-8-93).

Common to both vegetation and faunal mapping in the Mitchell River Watershed is a lack of detailed knowledge and information of species in this region. In a recent publication, Ingram and Raven (1991, p.12) back up this observation with the comment "our knowledge of the Mitchell River catchment is poor". Indeed, it is one of the worst researched areas in Queensland. This is a serious issue arising from the profile of this watershed
which requires immediate action in order to monitor future species diversity.

National heritage

Apart from the natural environment, there are a number of significant sites within the built environment in the watershed. Both natural and built environmental heritage sites have been minutely detailed by the Australian Heritage Commission and extracted for the shires of Carpentaria and Mareeba. They include:

South Mitchell River (Little Tern Site)
Mitchell River - Nassau River
Mitchell - Alice River National Park
Rutland Plains Holding
Chillagoe Station
Almaden Station Master’s Residence
Chillagoe Smelters
Fern Cave Aboriginal Rock Art Site
Royal Arch Caves National Park (Boundary Shelter)
Tower of London Shelter / Balancing Rock Shelter
Groganville Township, Limestone District
Anglo Saxon Tramway
Pinchgut Rockshelter
Walkunder Arch Cave
Castle Rock Site
Echidna’s Rest Rockshelter
Track Shelter
Walkunder Gallery
Mount Mulligan Coal Mine
Vulcan Mine
State Treatment Works
Former Queensland National Bank - Irvinebank
General Grant Mine
Tyrconnel Mine
Kingsborough Battery
John Moffat’s House
Chillagoe Mungana Caves National Parks
Forty Mile Scrub National Park
Barwon Swamp
Kimba Plateau
Palmer River Goldfield - Four Deep Mines
Alexandra Stamper Mill Complex
Chalmers to Maytown Coach Road
Maytown - Edwardstown - Upper Camp

Many of these sites have been nominated but are still under evaluation by the Australian Heritage Commission.

Conservation estate

The following information about conservation reserves was supplied by QDEH - Chillagoe (Little, pers.comm July, 1993).

<table>
<thead>
<tr>
<th>Reserve No.</th>
<th>Name</th>
<th>Area (Ha)</th>
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<tbody>
<tr>
<td>NP5</td>
<td>Mitchell and Alice Rivers</td>
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<tr>
<td>NP16</td>
<td>Forty Mile Scrub</td>
<td>4,619</td>
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<tr>
<td>NP1252</td>
<td>Hann Tableland</td>
<td>4,839</td>
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<td>R16</td>
<td>Palmer</td>
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<tr>
<td>NP13</td>
<td>Goldfields Reserve</td>
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<td>NP14</td>
<td>Royal Arch</td>
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</tr>
<tr>
<td>NP125</td>
<td>Donor’s and Tower of London</td>
<td></td>
</tr>
<tr>
<td>NP30</td>
<td>Royal Archway Caves</td>
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<tr>
<td>NP91</td>
<td>Cathedral Caves</td>
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</tr>
<tr>
<td>NP92</td>
<td>Geck and Spring Caves</td>
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<tr>
<td>NP95</td>
<td>Eclipse Caves</td>
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<tr>
<td>NP96</td>
<td>Royal Archway Caves</td>
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<td>R116</td>
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</tr>
<tr>
<td>D&amp;O</td>
<td>Chillagoe Smelters Reserve</td>
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</tbody>
</table>

Issues arising from the biophysical profile

Siltation

Siltation is one of the issues arising not only from this biophysical profile, but also from interviews with members of the MRWMWG as a potential threat to the Mitchell River. One of the main reasons siltation is a cause for concern is the affect it has on fish stocks and waterholes in the river. Causes of siltation include alluvial mining and some over-grazing which lead to stream-bank erosion and hence muddying of river water. Alluvial mining causes increased turbidity of river water when tailings water from washing plants is released into the main flow. Alluvial mining also exacerbates streambank erosion of disturbed mining sites and the situation worsens during the wet season when poorly constructed roads to mining sites wash into the river system.
Legislation does not require miners to rehabilitate mine sites for which leases were granted prior to 1980, which means most of them, except the large mining companies. As a result, there is simply insufficient rehabilitation work done and insufficient research conducted to understand the effect of rehabilitation on bare rocky watercourses and siltation of downstream water holes. Even for those small miners who are required to rehabilitate mining sites, to enforce the legislation is practically impossible due to the remoteness and inaccessibility of these areas. In addition:

The small scale miners who dominate these areas are, by and large, the types of people who have scant regard for bureaucracy and red tape, and don't really understand the need to protect the environment (Withnall, 1990, p.5).

Salinity
Dryland salinity is a relatively recent issue affecting parts of the Mareeba - Dimbulah Irrigation Area (MDIA), notably Arriga, an ex-rice growing region. A sub-catchment group has formed out of a one day workshop facilitated by QDPI - Water Resources to address these issues. However, like other salt affected areas, the problems in Arriga are not unique and not dissimilar to ex-irrigation areas in Victoria and New South Wales. In the case of the Cattle Creek subcatchment, rising groundwaters and poor soil structures associated with saline seepage have the capacity to seriously affect local tobacco crops grown over 75% of the MDIA.

Fire management
The issue of fire management has been a contentious one for many decades. Aboriginal land management systems in the Mitchell River Watershed favour the use of fire on a small scale basis to prevent outbreaks of serious bushfires among other reasons (Dale, 1991). In contrast, National Parks' managers have been opposing the use of fire in parks as a consistent policy across Australia. There is little agreement on what works and what doesn't work. However, a recent research submission from the Department of Environment and Heritage in conjunction with the Kowanyama Aboriginal Land and Natural Resource Management Office (KALNRMO) hopes to study traditional and contemporary fire regimes in the Kowanyama area with support from some of the Aboriginal elders (McDonald, pers.comm October 1993). Unfortunately, there has been no published studies of fire management in the Mitchell River Watershed.

However, in 1991 there was a public seminar sponsored by the Cairns and Far North Environment Centre (CAFNEC) which examined the use of different fire management regimes in Cape York. Several points worthy of note arise. Firstly there will always be fires in the Mitchell River Watershed whether they are controlled or not. Secondly, there are historical precedents among different catchment users as to the benefits or otherwise of fire management. For example, graziers who have planted improved pastures generally tend to avoid fire because exotic pastures are degraded by fire. Native pastures on the other hand require regular burning (McKeague and Wincen, 1991). Lastly, to return to the management of fire by Aboriginal communities, it is important to consider that fire is part of land management practiced in terms of both cultural and subsistence lifestyles. Furthermore, Aboriginal knowledge of fire regimes is important and should not be overlooked by scientists and the wider community (Parry and Clark, 1991). These last authors make some very valuable observations on the Aboriginal use of fire:

- Fire is an important management tool associated with caring for country
- Fire is intrinsic to a subsistence lifestyle
- Burning is done to permit ease of movement through the bush
- Burning is done to maintain trails in some areas
- In Gulf of Carpentaria communities, it is the custodians of the country who fire it
- Aboriginal young [people] learn from the older members of the community how to fire country
- Fires are set at specific times to promote specific grasses
- Changes in fire regimes have led to changes in vegetation and fauna populations (Parry and Clark, 1991, p.7).

Weeds
Rubber vine (Cryptostegia grandiflora) is a major noxious weed in the catchment due to its extremely invasive and hardy nature. It has caused extensive degradation of riverine vegetation throughout the whole of the catchment and is especially concentrated around Wrotham Park. Reproducing via tiny
air borne spores, rubber vine has infested much of the already disturbed ecosystems left by mine sites and along eroded stream banks. It exacerbates streambank erosion by destabilising riverine vegetation systems and killing mature trees which in turn causes river banks to collapse and erode. Current research on rubber vine control mechanisms is being carried out by the Tropical Weeds Research Centre in the Lands Department at Charters Towers. However, despite the recent release of a defoliating rust, there has been no commercially effective, widespread tool to curb the spread of rubber vine. It is hoped that with the combination of the rust and vegetation management systems to burn grasses underneath the rubber vine, it will slowly release its grip on the land bordering roads and rivers. In addition, several other weed species are prevalent within the catchment. These include; chinee apple, parkinsonia, callitrope and lantana. However, they all pale into insignificance compared to the damage imposed on the landscape by rubber vine.

**Vertebrate pests**

The feral pig is the most common vertebrate pest throughout the watershed. It often inhabits the wetland areas, rooting out and disturbing vast areas of plant communities bordering lagoons. It also contributes to erosion damage along water courses and stream banks. Pigs have also been observed in the middle of the catchment infesting rubber-vine thickets destroying habitat and becoming very difficult to control. The Mitchell River Watershed Management Working Group are in the process of consulting with a CSIRO scientist to undertake monitoring research on the numbers and spread of this pest.

In addition, feral horses and cattle also pose a threat to the economy of the region, as do cane toads. Several sightings of rabbits and foxes have the potential to cause a great deal of harm both economically and ecologically. The only control measures for most of these pests is opportunistic population reduction by shooters and trappers (Little, pers.comm, July 1993).

**Water quality**

Conjecture is spreading as to the affect of agricultural chemicals (fertilisers, pesticides and herbicides) saline groundwaters, town sewerage and urban development on the quality of water in the
Another important point about pre-contact history is the paucity of studies which illustrate the abundance of food resources in many Cape York eco-systems. Indeed within the Mitchell River delta, there are large swamps which attract migrating waterfowl, concentrations of edible vegetable matter, fresh and marine fish stocks as well as a surrounding land base rich in mammal and reptile species (Chase and Sutton, 1981). The rich and diverse landscape of Cape York supported quite a large Aboriginal population of an estimated 25-30,000 people in approximate terms (Fitzgerald, 1982). This view of the land as wealthy and bountiful contradicts the notion of a vast waste land, devoid of value to human life. It also emphasises the extensive ecological knowledge of Aborigines and underscores the importance of their relationship between culture and land use practice (Ross, 1993). The sophistication of Aboriginal land management expertise is largely ignored in many histories which often illustrate the struggles of pioneers in harsh and empty landscapes. But the dryness, the flies and the heat are symbols still chosen to represent ‘the interior’ by those who only appreciate its mineral reserves or ascribe Eurocentric values to the Australian ecology.

A tolerable show of gold

Ludwig Leichhardt was the first European to ‘discover’ and name the Mitchell River in 1845. In the mid nineteenth century, much of Cape York was explored by Europeans such as Leichhardt, Mulligan, Kennedy and Hann. All of these men rode over some of the Mitchell River Watershed between 1845 and 1875, but it wasn’t until gold was discovered at the Palmer in 1872 that Europeans first settled in the Mitchell River Watershed. Between then and the early part of this century the history of mining in the catchment has been typified by bloody conflicts with Aborigines and between various elements of the mining fraternity.

Not only were the Aborigines wild, but so were some of the white men. There were robberies, murders, drinking sprees, brawls outside the shanties, and fist-fights without number (Pike, 1976, p.13).

It is little wonder that tempers were raised considering the population of the Palmer valley in 1875. One estimate has it that the Chinese population alone amounted to 17,000 - 20,000 people with more "coming in droves" (Lack, 1959, p.21). But with the rising European and Asian population, so the Aboriginal population was declining rapidly. This had as much to do with disease and sickness as it had to do with confrontation with the invading miners. However, it was the battles which were most often recorded.

The gins were mounted on a pinnacle on the opposite side of the river, and they directed the blackfellows’ movements. Always when the whites began making an advance, the gins would sing a kind of war cry. Mulligan and company were very glad to get their horses loaded up and get out of the Gorge camp, but before they did they gave the blacks some ideas of the effect of Sniders! (Lack, 1959, p.21).

[or]

About 1880, when camped at a lagoon on Bolworra, the Dicksons were attacked and had to fight for their lives. The spears fell like rain and the brothers’ Snider rifles cut a swathe in the ranks of the warriors, but still they came on and the pioneers were almost overwhelmed. One had received a spear through his arm and another in his thigh and he gasped to his brother, "Shoot the tall nigger with the rusty hair or we’re done!" The tall native who was obviously the leader and showing great courage, fell to the pioneer’s deadly rifle and the attackers melted away into the bush (Pike, 1976, p.105).

A snider was a very powerful gun which was used, according to Pike and others, as ‘a civilising device to disperse the hostile blacks’. Indeed, as Pike points out, the civilisation to which Aborigines were forcibly removed often replaced their culture to the extent that they became "third class citizens, living in unhygienic camps on scraps and handouts, in cast-off clothes, being the hewers of wood and carriers of water for white ‘boss’ and ‘missus” (Pike, 1976, p.107). Fitzgerald points out that much of this rewritten history of Aboriginal life in this era is "unerringly patronising and Eurocentric" (Fitzgerald, 1982, p.102). Indeed, Fitzgerald draws on one of Pike’s portrayals of a pioneer’s death to prove his point. But what could be more proof of the patronising attitudes of that era than the removal of many Aborigines from their homes and their placement in reserves or on grazing properties?
Unsealed formed roads: 3,780km
Unformed roads: 2,449km
(DPI brochure 96J/2).

Because of this isolation and the cost of travel, there has been a long established tradition of self-reliance in remote areas:

This is founded on the resourcefulness of all family members, who perforce become jacks-and jills)-of-all-trades, capable of a wide array of tasks, including the maintenance and repair of vehicles, machinery, fence and privately erected telephone lines; minor construction and installation; coping with any type of emergency including mechanical breakdown, rescue, fire, flood and medical; providing all child-rearing services including correspondence lessons; supplying a high proportion of basic needs in food and fuel; and organising most leisure activities (Holmes, 1985, p.13).

Thus technological developments such as satellite TV, air-conditioning, two way radio, video-players and four wheel drive vehicles become very important, especially in the absence of all-weather roads, electric power lines, daily mail services and accessible service towns (Holmes, 1985). The absence of the latter also contribute to the high levels of stress experienced by all who live and work in isolated surroundings. However, this is partially compensated for by a sense of independence and autonomy over decisions made in everyday life such as what time to take correspondence lessons, when to relax and when to work. However, on the other side of the coin, life on remote grazing properties whilst not dictated by the tyranny of small decisions, is often dictated by the weather.

The bottom end of the watershed has been written about in detail by a handful of anthropologists and historians. Over the rest of the watershed there is very little academic detail. However, much of the top end of the catchment has been written about by a local literary figure - Glenville Pike. In a self-published "story of the pioneering of the beautiful country over the range inland from Cairns", he attempts to recall the early spirit of the area in a style which is readily accessible and full of stories passed on down through the years.

Indeed, the histories of the Mitchell River Watershed are mysterious, blood-curdling, exciting and moving. They describe murders at mining sites, tribal warfare, genocide and pioneering tragedies in the outback. While this may also reflect histories of other regions in Far North Queensland, the particular nuances and detail of the Mitchell River history bring the whole watershed alive with scandal, intrigue and everyday drama. For the purpose of this analysis I have arbitrarily divided the history of the region into several themes, reflecting the period from pre-contact to the present.

**Pre-contact**

All too often Australian histories begin by describing the first contact of European and Asian settlers with Aboriginal Australians. Whilst not wanting to make the same mistake, this ‘pre-contact’ theme must necessarily be brief, in part due to the lack of written sources of information, but also because it is not strictly about the current operation of the MRWMWG. However, several important points concerning pre-contact life in this region do require further explanation here. Firstly, the Mitchell River Watershed is a humanised environment. The Aboriginal population, which inhabited it for many thousands of years, shaped and altered the landscape in a way which enhanced their aptitude for life there. The most obvious example of this is in terms of Aboriginal fire regimes which continue to affect the Cape York environment today. This is not a feature unique to the Mitchell River region, but affects much of Australia. The concept of Aboriginals altering their landscapes has been recognised recently. The new perceptions serve to negate the image of the free, open, untouched, virgin territory which awaited European and Asian occupation by 'the noble savage'.

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**Historicultural profile**

*To Alma*

It is appropriate to refer to many histories of the Mitchell River Watershed, because there is not one common experience. The settlement pattern and culture of the region varies considerably as does the experience of those people living within its boundaries. However, it has not all been chronicled, especially at the more remote regions in the catchment.
is evident in Nurrabullgin (formerly Mt Mulligan) where collaborative work is being undertaken between the Kuku Djangan Aboriginal Corporation and a local eco-tourism consultancy firm to develop an eco-tourism plan for this spectacular site.

Mining

Gold is now the largest mining industry in the Mitchell River Watershed through the Red Dome Mine based near Chillagoe. However, there is considerable evidence of historical hand mining and old shafts dot the landscape in the upper half of the catchment. This is detailed more specifically in the Historical Profile of the area. Currently, there are still many independent or ‘small miners’ working in the upper half of the catchment, but none are represented on the Mitchell River Watershed Management Working Group. This is not serving the interests of the MRWMWG in their attempts to minimise adverse impacts of resource use of the watershed.

However, it is still the risk associated with a dam failure at the Red Dome site which occupies much of the health and safety agenda within the catchment as perceived by MRWMWG members. Many of the downstream users raised the threat of an industrial accident during interviews. On the positive side, the general support for the MRWMWG shown by Red Dome has been noted across the catchment and has resulted in some historically unlikely alliances. Red Dome’s support for the MRWMWG has also fostered greater understanding between miners, graziers and Aborigines living and working in the watershed.

Economically speaking, Red Dome itself turns over $60-70 million in the Queensland economy. They have contributed financially to the sealing of a short distance of road directly outside the mine and have been involved with several conservation projects in nearby Chillagoe contributing machinery. Red Dome also uses Chill. However, it is not known how much of this profit returns to the local area as the company is owned by New Nuiguini Mining Ptd Ltd, an international firm. It is estimated that $5-10 million is spent in the Tablelands west of Cairns (McCarthy pers. comm. October 1993).

Fishing

The Mitchell River is well known locally as a ‘top spot’ for barramundi fishing. It is little wonder when one realises that the Mitchell River contributes the biggest commercial fishing catch in Australia. It is also the site of significant cultural heritage and indigenous resource issues to do with fishing and life itself on the river. John Cordell has provided an especially important report to the ESD Fisheries Working Group entitled Managing sea country: Tenure and sustainability of Aboriginal and Torres Strait Islander marine resources. In it, he

- recognises the importance of the river to a range of user groups,
- identifies spiritual attachment to the river as an important consideration for indigenous peoples and
- has compiled a case history of the Kowanyama Aboriginal Land and Natural Resource Management Office (Cordell, 1991).

Again, one of the most limiting factors about the fishing industry in the Mitchell River Watershed is a lack of information about and reliable scientific data on the quality and quantity of fish stocks in the river. However, the Queensland Commercial Fisherman’s Organisation together with the Kowanyama Aboriginal Land and Natural Resources Management Office are working to monitor species at the main Mitchell channel (Cordell, 1991). Both these organisations also see the MRWMWG as an essential management tool toward more effective cooperation and integration of up-stream users and their needs with down-stream users’ needs.

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**Issues arising from socioeconomic profile**

**Distance and isolation**

Common to all the above land uses and industry types in the catchment are the problems of isolation and distance. This affects not only the economic viability of these industries, but the health, education and welfare of residents in remote areas. Given the sparse population, especially in the western region of the watershed, unsealed roads tend not to be graded as regularly as they are in more accessible and more densely populated areas. There are more unsealed roads than sealed ones. In the Mitchell River Watershed as of 1992, gazetted roads consist of:

<table>
<thead>
<tr>
<th>Sealed roads</th>
<th>1,490km</th>
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practices such as improved husbandry techniques, supplementary feeding and sown pasture technologies have increased the carrying capacity of herds on many properties (Gittoes, McKeague and Boorman, 1989). And as McKeague and Boorman note, the cattle industry is still a major source of income in Cape York. "The value of cattle turnoff in 1989/90 in the area embracing all of the Mareeba and Cook Shires and the Northern part of the Carpentaria Shire (which includes much of the Mitchell River Watershed was $31,000,000" (DPI brochure 96J/2).

Agriculture

Agriculture takes place in a relatively small percentage of the catchment confined to the far south east between Mareeba and Dimbulah and in the Julatten area east of Mount Molloy. Table 4 illustrates the production estimates of the Mitchell River Watershed portion of the Mareeba Dimbulah Irrigation Area.

It should be noted from Table 4 that rice is being replaced with sugar cane in much of this area, however these figures are not yet reflected in the 1990/91 Crop Report. Another point of interest is the significant income generated from growing tobacco. Indeed, "Mareeba-Dimbulah is now the largest tobacco producing district in Australia with 56 per cent of the national crop" (Queensland Water Resources Commission -now DPI, brochure). As noted locally, there is considerable tension in the Mareeba area about the prospect of tobacco losing market value and becoming increasingly regulated. But, what is not apparent from Table 4 is the sociodemographic profile of the agriculturalists in the area. Although the catchment statistics are hard to extract from the general population of Mareeba, it is widely reflected in the composition of stores and storekeepers downtown. There are many Italians and many eastern Europeans farming in the district. There is also a small but significant population of Moslem Albanians most of whom are first and second generation Australians. This diverse and cosmopolitan mix provides Mareeba with an unusual backdrop.

Tourism

Tourism is the fastest growing industry in Cape York (MRWMWG Short Report No.1). However, much of that potential bypasses the catchment in favour of the more established attractions centred on the Cape itself and the wet tropics region. Tourists who are using the catchment to fish, four wheel drive, camp or investigate the culture, history or ecology of the area are seen by local residents as 'more trouble than they're worth'. As the MRWMWG Coordinator notes in his short report, "unfortunately, there is always an element that overfish, litter, hunt without permission, vandalise property, pester stock, and generally show little respect for private property" (MRWMWG Short Report No. 1). However, some enterprising station owners are attempting to bring tourist dollars back into the country:

If a stockman was asked to overland a mob of cattle 200km in the old fashioned way and pay the boss for the privilege, one can imagine the hoots of laughter and derision the suggestion would cause.

But that is what city people are doing in the Outback these days. Some of them have been jumping at the idea of going bush roughing it, spending a couple of weeks on a horse amid the dust and dung behind a mob of cattle...A jeweller, a solicitor, a DPI officer (female) and one or two other cityites cheerfully shelled out $140 a day to be members of a droving team (The Northern Sun, (9) 25 Jul-Sep. 1993, p.5).

Members of the Pacific Asia Travel Association (PATA), on the other hand, are encouraging what they call endemic tourism in the area. They define endemic tourism as tourism which recognises:

a) that each individual locality or community has its special character, and

b) that particular character or identity may well constitute its major attractiveness to tourists.

Endemic tourism also includes recognition that the cultural characteristics of communities have great value as tourism assets whether the culture is indigenous or introduced (PATA, 1992, p.i)

This group recognise the special problems and challenges for managing the tourist dollar. They promote the sustainable use and management of areas such as the Mitchell River Watershed with attention to developing a vision and local planning mechanisms for the catchment. Such an approach
Table 4: Production estimates of the Mitchell River Catchment portion of the Mareeba-Dimbulah Irrigation Area based on the 1990/91 Annual Crop Report.

<table>
<thead>
<tr>
<th>CROP TYPE</th>
<th>AREA (ha)</th>
<th>VALUE ($$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mangoes</td>
<td>670</td>
<td>4 689 000</td>
</tr>
<tr>
<td>Avocados</td>
<td>105</td>
<td>1 163 000</td>
</tr>
<tr>
<td>Citrus</td>
<td>35</td>
<td>251 000</td>
</tr>
<tr>
<td>Macademia</td>
<td>200</td>
<td>239 000</td>
</tr>
<tr>
<td>Other tree crops</td>
<td>160</td>
<td>256 000</td>
</tr>
<tr>
<td>Tobacco</td>
<td>2200</td>
<td>44 432 000</td>
</tr>
<tr>
<td>Rice</td>
<td>1840</td>
<td>2 395 000</td>
</tr>
<tr>
<td>Seed</td>
<td>660</td>
<td>656 000</td>
</tr>
<tr>
<td>Vegetables</td>
<td>45</td>
<td>709 000</td>
</tr>
<tr>
<td>Coffee</td>
<td>120</td>
<td>634 000</td>
</tr>
<tr>
<td>Melons</td>
<td>45</td>
<td>228 000</td>
</tr>
<tr>
<td>Navy beans</td>
<td>80</td>
<td>168 000</td>
</tr>
<tr>
<td>Peanuts</td>
<td>45</td>
<td>61 000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>5040</strong></td>
<td><strong>56 881 000</strong></td>
</tr>
</tbody>
</table>

Cattle industry

Grazing is the dominant land use within the Mitchell River Watershed and has been since European settlement in the late 1800s. The Coordinator for the MRWMWG estimates that there are 52 properties within the catchment with an average area of 500-600 square kilometres (Pond, pers.comm 30-06-93). There have been many studies of the cattle industry in Cape York as a region but none specific to the Mitchell River Watershed. These studies have tended to be polarised and conflicting, especially with regard to the potential environmental and locational disadvantages of the grazing industry in the catchment. Although relevant as background information, I do not intend to detail the many facets of some of these important issues, merely to flag them as controversial. On the negative side there are problems with infertile soils generally (McKeague and Wincen, 1988) phosphorus deficiency for plant and animal species, botulism, dry season breeder mortalities, low branding rates and high mustering and transportation costs (Boorman cited in Holmes, 1990). Other production restraints noted by McKeague include; "high marketing costs, a limited market range, unmanageable lease sizes and a shortage of development capital" (McKeague, 1992, p.iv). There can be overgrazing pressures where debts per livestock unit are high or where there are inflexible financial arrangements regarding interest repayments (Young, Gibbs, Holmes and Mills, 1984). However, as these authors note:

Like most other people, many managers have positive attitudes towards conservation which emerge as soon as their primary goal of achieving an adequate family life style is achieved (Young, Gibbs, Holmes and Mills, 1984, p.89).

On the positive side, there are many grasses and legume pastures, a reliable rainfall pattern and good soils on the alluvial and frontage country bordering the Mitchell River (Holmes, 1990). Management
vince stakeholders in the catchment that there are any problems at all. The issue of cumulative impact is only perceived by those stakeholders who believe themselves to be at the receiving end of environmental problems affecting the watershed - i.e. downstream users, predominantly the Kowanyama Aboriginal community, some professional fishermen and several stations.

Socioeconomic profile

The estimated population in the Mitchell River Watershed is approximately 7500 people (Pond, pers.comm. June 1993). There is one major urban centre at the head of the catchment, Mareeba. However, not all of the township falls within the catchment and therefore it is difficult to estimate the percentage of the Mareeba population living inside the Mitchell River catchment boundaries. Various councils have provided the following population statistics for urban centres within the watershed (unofficial estimates):

- Mareeba 7000
- Dimbulah 500
- Chillagoe 220
- Mt. Molloy 250
- Irvinebank 150
- *Herberton 1100
- *Mt. Garret 400
- Kowanyama 1000

* These centres lie very close to the boundary of the catchment making it difficult to be accurate about population statistics.

A related problem is encountered when considering the representation of Census Districts (CDs) within the watershed. There are 30 CDs lying wholly or mostly within the Mitchell River Watershed. Due to the expense and difficulty of obtaining figures for all 30 CDs, I have chosen three to represent the socio-demographic statistics of areas at the bottom (CD 020201 surrounding Kowanyama), in the middle (CD 030101 east of the junction of the Mitchell and Palmer Rivers) and at the top of the catchment (CD 030206 in the south east corner of the catchment). See Figure 8 which illustrates the relationship between the three CDs and the watershed boundaries, and Table 3 which shows comparative demographic statistics for each district and between these districts and the whole of Queensland’s ‘other rural’ classification of state. Please note that all of these census districts are classified as ‘other rural’ reflecting the isolated nature of the catchment and they do not have very high populations, especially in the west and in the middle of the area. Therefore, when calculating percentages of various populations, it is important to keep in mind the small number of persons who are affected.

It is interesting to note the population trends for the three CDs in the Mitchell River Watershed in relation to the QLD figures. There is a predominantly young male population who work in labouring jobs. This reflects the nature of working on grazing properties and in mining camps in rural and isolated Australia. When compared to the survey of MRWMWG members, there is an obvious discrepancy in age; there are more older people in the Mitchell River Group than are represented in the statistics. The population of the three CDs mainly speak English at home, although there is a small percentage who speak Croatian in CD 030206 and there are a number of Aboriginal languages spoken but not reported in the statistics. This reflects the difficulty of collecting census information in remote areas. However, what is apparent from Table 3 is that the proportion of Aborigines and Torres Strait Islanders in the total population is considerably higher in the Mitchell River Watershed than it is in Queensland generally and also in comparison with Australia as a whole where it is extremely high in relation to the 1% of national population (Ferrier, 1990). Another point worthy of attention is the religious affiliation - predominantly Christian - noted by as many as 69.6% of the population in CD 030101 compared to 56.9% in CD 020201. This is interesting considering that none of these areas have townships - they are all isolated and rural districts. When looking at the employment trends for the region, it is understandable that most of the labour force in CD 030101 (82.4%) is employed in Agriculture, Forestry, Fisheries or Hunting. The main activity is grazing in this area. At the top end of the catchment, in CD 030206, only 35.6% of the population is employed under this industrial classification while at the bottom end, in CD 020201, almost half (49%) of employed people are included in this code. It is interesting at this point to take a closer look at the industries existing in the catchment.
Table 3: Comparative demographic statistics

<table>
<thead>
<tr>
<th>Attribute</th>
<th>CD 020201</th>
<th>CD 030101</th>
<th>CD 030206</th>
<th>QLD rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>(M) (F) Total pop.</td>
<td>48(M) 11(F)</td>
<td>33(M) 11(F)</td>
<td>85(M) 41(F)</td>
<td>263022(M) 236149(F)</td>
</tr>
<tr>
<td>Median age</td>
<td>23(M) 37(F)</td>
<td>19(M) 25(F)</td>
<td>32(M) 35(F)</td>
<td>31(M) 31(F)</td>
</tr>
<tr>
<td>Aboriginality (%)</td>
<td>10%</td>
<td>0%</td>
<td>2.6%</td>
<td>2.2%</td>
</tr>
<tr>
<td>% Pop. left school at or before 15yo</td>
<td>58.0% 72.2% 48.9% 46.3%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Pop. (15yo or more) 'not qualified'</td>
<td>62.7% 90.6% 74.2% 66.2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Pop. (15yo or more) in labour force</td>
<td>78.2% 100% 65.1% 64.6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Labour force employed (E) or unemployed (U)</td>
<td>100% (E) 100% (E) 78.6% (E) 21.4% (U) 89.6% (E) 10.4% (U)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Employed who work 40 hours or more per week</td>
<td>93.0% 83.8% 63.7% 58.6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Employed by occupation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers/admin</td>
<td>16.4%</td>
<td>26.5%</td>
<td>17.8%</td>
<td>24.6%</td>
</tr>
<tr>
<td>Professionals</td>
<td>0%</td>
<td>0%</td>
<td>13.3%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Tradespersons</td>
<td>16.4%</td>
<td>8.8%</td>
<td>0%</td>
<td>12.6%</td>
</tr>
<tr>
<td>Labourers/ Machinery Op.</td>
<td>50.9%</td>
<td>64.7%</td>
<td>48.9%</td>
<td>23.4%</td>
</tr>
<tr>
<td>Other</td>
<td>16.4%</td>
<td>0%</td>
<td>20.1%</td>
<td>32%</td>
</tr>
<tr>
<td>Median annual individual income</td>
<td>$12001 -</td>
<td>$12001 -</td>
<td>$8001 -</td>
<td>$12000 -</td>
</tr>
<tr>
<td></td>
<td>$16000</td>
<td>$16000</td>
<td>$12000</td>
<td>$16000</td>
</tr>
</tbody>
</table>

upper reaches of the Mitchell River system. However, apart from QDPI Water Resource testing, there is little in the way of accessible data or information to confirm or deny these growing fears. QDPI - Water Resources have a watchdog role, but no legislative power over water quality. Water samples are taken every 6 - 8 months in and around the irrigation area, however the timing of water testing is dependent on the duration and severity of the wet season. In terms of water quantity throughout the catchment, "approximately two-thirds of the Mitchell system is no longer monitored due to [stream gauging] station closures" (Sadler, 1990, p.2). It seems that this is an area for immediate attention by the group or QDPI Water Resources if the MR WMWG is serious about monitoring the quality and quantity of water within the watershed. It is apparent that more information needs to be collected now to act as a base line for determining future water quality and quantity levels.

What problem?

Perhaps this is one of the more widespread, difficult to answer and pervasive of the issues arising from this study. Despite the biophysical issues addressed above and the formation of the MR WMWG, the reaction of most interviewees is that the Mitchell River is still one of the largest unspoilt natural river systems in Australia.

We need to address the question of 'What are the real issues? ' if resources are to be diverted to manage the Mitchell River Catchment - we need to be convinced of the magnitude of the problem (Gilbey, 1990, p.2).

Most people interviewed, rightly or wrongly, do not perceive the Mitchell River Watershed to be at risk of acquiring the same sort of environmental degradation problems affecting southern river systems. Many interviewees also suggest that this 'lack of a problem' was one of the reasons the Mitchell River was not an early priority for government agencies. Therefore the question remains: 'What are the real issues?' In a Catch-22 situation, one of the real issues remaining is the need to con-
Unrolling his swag

Just as the discovery of gold was to bring the first major European and Asian populations into the Mitchell River Watershed, so the mining population itself was responsible for bringing the first drovers and graziers into the catchment. After a quick return on beef to feed the growing population, many of the early graziers did not rear their stock inside the catchment, but drove huge herds overland to reach the Palmer goldfields. Land at Wrotham Park and Gamboola was opened up in the late 1870s to provide a closer and more economic source of protein for the miners. However, it was just over a decade later that a tick plague accounted for most of the reported 23,000 head of cattle, 17,000 of which died.

Early in the new century, the Aboriginal Protection and Restriction of the Sale of Opium Act assisted the pioneering graziers of the Mitchell River Watershed by providing a source of free labour and 'taming' much of the 'hostility of the blacks'. Like the miners' experience, graziers also feared attacks from Aborigines and this fear was to continue well into this century. Stations such as Highbury, Drumduff, Dunbar, Koolatah and Rutland Plains, all within the Mitchell River catchment, detail attacks on livestock and households by 'wild Aborigines'. So, like the retaliations of the miners, the response of the graziers was equally violent. Many lives, both black and white, were lost. The 'poisoned flour' incident on a station near Kowanyama was testimony to this sort of retaliatory action. It is reported that poison was added to the sacks of flour rations given to the Aborigines working on the station. Although several became very ill, they were treated with bush remedies and no one died.

More than the accounts of miners' bravery, or early drovers in the Mitchell River catchment, stories of the stalwart pioneers abound in the history books. Legends have been passed on through generations and remains enshrined in the ideology of people who still live and work in this landscape. There are many reminders that it was because of the hard work of the pioneers, those rugged individualists, that Europeans are here today.

Everyone was a pioneer, and men, women, and children were willing to work. They had a vision of the future, and they built for future generations. Compared with today, they built with their bare hands, with flesh and blood, by their sweat and muscle, and the sinews of their only helpers, faithful horses and bullocks. The pick, the shovel, dynamite, the block-dray, and a woodfired steam engine or two, their only labour saving devices (Pike, 1976, p.5).

The people were generous in spirit...They were undoubtably a "golden" people, kind benevolent, tough and industrious...- people shaped by adventure and self-reliance (Loeven, The Northern Sun Vol. 9. No. 25. 1993).

To many, this type of person on the land is still quite apparent and working hard in the Mitchell River Watershed. And to many others, it is equally apparent that the Aboriginal population are just as invisible now as they were then. Not 'faithful helpers' nor 'golden people', Aborigines in the Mitchell catchment are striving to sustainably manage their natural resources economically, ecologically and culturally (KALNMO 1992). To many 'southerners' there is still the romanticism attached to Cape York of richness and freedom in 'the wilderness'. But the early pioneers were in no doubt as to their relationship with the land, it was fostered by sentiments such as 'kill or be killed', battle it out with the elements or be done for in the fight. Before the images of glory, freedom and the great outdoors came in favour, there was much hardship and difficulty with little thanks or acknowledgment of the work done with assistance from the Aborigines of the Cape. At times it was more like slavery with the benevolent nod from governments under the Protection of Aborigines and the Restriction of the Sale of Opium Act.

The mission mangoes

Under this Act, the Queensland Government "sought to protect Aborigines by gathering them together in Reserves which became a source of labour, unpaid to 1901. Frequently Aborigines were used for transporting goods and materials where it was impossible to use horses" (Connell and Wagner, 1989, p.14). In 1903, the Queensland Government established a reserve of this kind on Trubanaman lagoon, near Kowanyama. Two years later a party of missionaries arrived to establish the Mitchell River Mission which subsequently moved to a new location on Magnificent Creek where Kowanyama is today. Aborigines were rounded up and moved from nearby stations to live in the mission which
has "proved to be one of the greatest constraints to Aboriginal access to traditional country" (Dale, 1991). Alma was born in Kowanyama in 1933. Her story says a lot about life in the mission in the 30s and 40s.

Joseph Chapman - Superintendent of the Mission, he used to go around and visit young children and take them and put them in the dormitory. Sometimes he couldn't find us - we would hide. But he had a dog named Spot and he would track us. We weren't allowed to go out ever - the caretakers would watch us... Sundays we could visit our families after 12 o'clock and 5 o'clock we had to go back to the dormitories.

Alma was put into the Mission with two of her sisters when she was seven years old. From the Dormitory she would go to say prayers in church every morning, every evening and on Sundays. She was taught to say grace for meals and made to go to school every day, but she learned things other than the standard literacy and numeracy skills.

During school hours, we used to go out and some of the elder teachers would teach us sewing - Mrs Michael and Laura and Mandy and May, they were working for Wilfy and Mr McLeod our Superintendent... Those three girls would teach us to cook and bake bread and teach us to do washing and put them through the blue and starch and iron them and making bread in the house. And that's how we learned from them. Even crochet - Mrs Michael, the Aboriginal Assistant Teacher, would teach us.

Alma stayed in the dormitory until she was married at 15 which was the common practice. After the second world war, Alma told me the bigger girls were allowed to leave the dormitory even if they weren't married. Alma had three children in the early 1950s, but one died as a baby. Her life working on the stations as a cook or as laundry girl or housekeeper is not atypical of Aboriginal women's experience of that era.

And then later after that again I went back to Dunbar and worked at Dunbar Station as head cook - I worked for wages. Before then - only our husbands employed - they would get double to support us wives.

This took place around the mid to late 1950s. At approximately the same time a journalist from Walkabout magazine visited the Mitchell River Mission and filed a report about bush-tucker, fighting spears and 'tribal secrets'. He ended his report with this insightful comment.

It is more than fifty years since the Mitchell River Mission was established, and in that time events have shaped themselves in such a way as to have brought the aboriginal closer to modern conditions. In this all the missions of the Gulf of Carpentaria have played an outstanding part. They have planted more than mangoes (Hall, 1958, p.32).

The missionaries did plant things other than mangoes, and so did the miners and the graziers. Indeed all the pioneers planted new ideas, strange customs, and different lifestyles in the landscape and upon the people who inhabited that 'terra nullius'. 'The state viewed the north as wild and uncivilised, and the regions' Aborigines as invisible and irrelevant. The north, the politicians agreed, was a 'no man's land' (Lines, 1991, p.210). And into this 'no man's land' (for it is regarded as a predominantly male landscape) the pioneers, miners, graziers, tourists, fishermen and Aborigines are still endeavouring to work things out in a way that benefits all who live and work in the Mitchell River Watershed.
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Photograph by: Anna Carr, Centre for Resource and Environmental Studies
Beenyup Brook, Serpentine Jarrahdale, WA.
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ABARE, see Australian Bureau of Agricultural and Resource Economics.


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