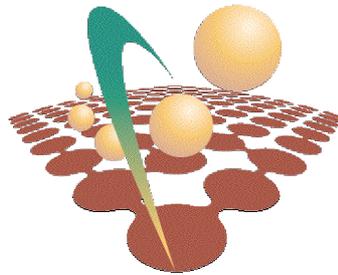


Resource Governance and Integrated Catchment Management:

Issues Paper No 2

Murray-Darling Basin Commission Project MP2004:

*Agriculture and Natural Resource Management
in the Murray-Darling Basin: A Policy History and Analysis*



INSTITUTE FOR **Rural Futures**

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NEW ENGLAND

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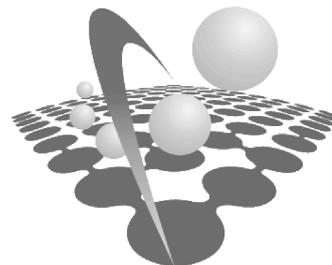
Ian Reeve
Institute for Rural
Futures

Graham Marshall
Institute for Rural
Futures

Warren Musgrave
Economic Consultant

**Institute for Rural Futures
University of New England
Armidale, NSW 2351**

Tel: 02 6773 2220
Fax: 02 6773 3245
Email: irf@metz.une.edu.au
Web: <http://www.ruralfutures.une.edu.au>



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Preface

Government policy for agriculture and natural resource management (NRM) has a profound influence on the ways in which natural resources are utilised. There is broad acknowledgment that agriculture will have to be practised differently from now on, in order to reverse the trend towards environmental degradation in many parts of the Basin. There is a need for new policy directions, especially considering the urgent need to address dryland salinity, biodiversity and related issues.

This report is part of a project instigated by the Human Dimension Program of the Murray-Darling Basin Commission and was undertaken by the Institute of Rural Futures based at the University of New England in NSW.

The project initially produced an Overview Report which is a description of the broad trends in 20th century government policy which impacted on land use practice in the Basin. A Workshop was then held to debate and agree upon the four most significant areas where a shift in policy could, in the long term, encourage and facilitate sustainable farming practices. Each of these four areas is the subject of an issues discussion paper. These papers are designed to be a broad canvassing of ideas which will contribute to the debate about the direction NRM will take in the future. Authors were asked for suggestions to move the agenda forward, and the ideas contained in the papers are not necessarily endorsed by the Commission.

<i>Overview Report:</i>	Agriculture and Natural Resource Management in the Murray-Darling Basin – A Policy History and Analysis
<i>Issues Paper 1:</i>	Legal Issues Relating to Water Use
<i>Issues Paper 2:</i>	Resource Governance and Integrated Catchment Management
<i>Issues Paper 3:</i>	Regional Development Issues
<i>Issues Paper 4:</i>	Human Dimensions of Structural Change

Please note that these are a linked set of documents and are fully referenced at the end of each component report.

Acknowledgments

Each of the papers has been reviewed by one or more external reviewers, as well as by the members of the project Steering Committee. The papers have gained significantly from the helpful comments and suggestions provided by these reviewers and their assistance is gratefully acknowledged.

Summary

For much of the 19th and 20th century, agricultural development in the Murray-Darling Basin proceeded, as elsewhere in Australia, with little attention to the wide range of public goods that were provided by the environment. With the transition from agricultural frontier to mature regional economy, governments have had to concern themselves increasingly with the impacts of agriculture on the provision of public goods such as clean water and natural biodiversity. In the last two decades of the 20th century, there has been a growing complexity in both the environmental problems faced by the Basin, and the arrangements governments have put in place to deal with them.

This paper commences with a brief account of the role of the state in resource management, and the changes that have occurred in this role, including the distribution of responsibilities between the States and the Commonwealth. After identifying some of the promising developments in cooperative federalism in the sphere of resource management policy, the paper turns to the question of resource management arrangements at the regional and local level. The dominant policy framework at this level, integrated catchment management (ICM), is briefly reviewed. It is suggested that the ideal of integrated catchment management is a critical and essential policy goal for the Basin. The practice of ICM would be improved with further policy development in two areas. First, there is a growing body of evidence that forms of self-governance based on trust and cooperation among small groups of resource users are a robust and sustainable institution that can complement state-based ICM efforts. Second, the values that underpin such self-governance have the potential to conflict with the values that underpin State ICM efforts and cooperative federalism more generally. It is argued that the regional resource management organisations will need to play a skilled mediating role if the sorts of value conflicts that underlie current landholder cynicism about landcare and ICM are to be avoided.

The paper sketches an overall resource governance framework which builds on the strengths of cooperative federalism that have become evident with the COAG water reform process, the strengths of State ICM and research capacity, and the potential for robust, sustainable self-governance by resource users at the local level. The paper concludes by canvassing some of the key issues relating to the feasibility of the resource governance framework. Regional capacity building is a central issue, both in terms of the ability of catchment management organisations to carry out their critical mediating role, and in terms of the civic participatory skills needed by resource users involved in local scale self-governance.

1 The Role of the State in Natural Resource Management

This discussion paper focuses on the issues and future policy directions relating to how governments exert influence on the activities of their citizens that are impacting on the rural environment and natural resources, in order to achieve public interest goals. The geographical focus is the Murray-Darling Basin, although much of the discussion in this paper is applicable to other areas of Australia.

Over the last decade or so, Australian policy discussion in this area has developed a number of terms and concepts which are often used with the assumption that they will mean the same thing to all who encounter them. This chapter commences by clarifying the meaning of a number of these terms as used in this discussion paper.

1.1 Definitions

In policy discussion, the term ‘institution’ can refer to either an organisation or to social practices that are regularly and continuously repeated, are sanctioned and maintained by social norms, and bring order and stability to societies¹. For example, the Commonwealth Bank is a financial institution, i.e. a financial organisation or firm. The social practice of having firms specialising in borrowing and lending money is an institution in capitalist societies. In this paper, the term ‘institution’ refers to social practices.

The usage of the terms ‘state’ and ‘government’ can also be confusing. A modern nation-state comprises a population occupying a defined territory, with a system of government that is recognised as legitimate by other nation-states. ‘The state’ is an abstract concept referring to the set of institutions comprising the legislature, executive, central and local administration, judiciary, police and armed forces. ‘The government’ refers to the individuals and organisations that carry out the functions of the state. A government may follow time-honoured ways of carrying out its functions, in which case the methods of government are also institutions.

In an Australian context, further confusion arises because our federal system of government has some functions of

government carried out by the States (such as Queensland or New South Wales), which have defined territories, their own systems of government, legislatures, executives and administrations.

In this paper, ‘state’ refers to the abstract concept of a set of institutions as described above, ‘State’ refers to a State within the Commonwealth of Australia, ‘government’ is a generic term for individuals and organisations carrying out the functions of the state, and ‘Government’ refers to a specific set of individuals and groups, such as ‘the Keating Government’ or ‘the Queensland Government in 1990’.²

The concept of ‘resource governance’ has emerged from an area of study that developed during the 1990s, and that is perhaps best represented by the work of Elinor Ostrom (Ostrom, 1990). As used by Ostrom and others, the concept refers to the process by which collective decisions are made about access to natural resources when there is more than just a single government agency involved — when, for example, multiple agencies, interest groups and individuals take part in decisions.³ An examination of the use of the term ‘resource governance’ on the World Wide Web, both in Australia and overseas, suggests that the term is often used to describe situations where

decentralisation of resource management functions formerly held by state agencies has taken place. This may also, but not always, involve the sharing of planning and decision making powers of state agencies with resource owners or users.

The statutorily defined sharing of powers between state agencies and resource users or organisations representing their interests is more frequently denoted by the term ‘co-management’. This term is widely used in the Australian context of marine resources and indigenous resource users.

The term ‘partnerships’ or ‘community partnerships’ can also denote sharing of power as in ‘co-management’, but an examination of the usage of ‘partnerships’ in Australian documents about natural resource management on the World Wide Web reveals it is often used rhetorically in State and Commonwealth agency documents, with the actual arrangements for sharing power, responsibility and accountability are rarely delineated in any detail. The use of the term appears to relate more to acknowledging commitment to particular social or political values, than to describing a specific form of resource governance.

In this paper, ‘resource governance’ will refer to situations where multiple government agencies, interest groups, and individuals are involved, without implying any particular distribution of powers among the state and resource users. ‘Co-management’ will be used to describe forms of resource governance involving statutorily defined sharing of power, responsibility, accountability, monitoring, enforcement and other functions essential to the management of natural resources.

‘Partnership’ will be used to describe formal arrangements between Commonwealth and State governments, or between State governments and catchment management organisation, where responsibilities, accountability and the sharing of costs are well defined.

The terms ‘resource management’ and ‘natural resource management’ pre-date ‘resource governance’ by many decades, having their roots in the USA Progressive movement in the first part of the 20th century. This movement was a reaction to the wasteful excesses of the frontier era, and held that a strong government bureaucracy supported by scientific expertise was necessary to manage the use of public lands⁴. In Australia, the Progressivist ideal of a neutral and expert bureaucracy objectively resolving environmental issues has lived on in such institutions as environmental impact assessment and organisations such as the Resources Assessment Commission⁵. The ideal also underpinned early views about integrated catchment management in the 1980s. Since that time, and with the growth of public participation in collective decision making on rural environmental and resource issues, the Progressivist purity of the original concept of ‘resource management’ has become diluted. For example, the term ‘land resource management’ as used in Australian policy discussion refers to the actions of both State agencies managing Crown land in the public interest and to farmers managing private land for commercial goals. Staff of State agencies and farmers are both referred to as ‘land managers’.

As this dual usage can blur the clarity of policy discussion, the term ‘resource management’ without qualification will refer to actions by government agencies. Where individual landholders are managing resources for public benefit, such as establishing wetlands or wildlife habitat, the term resource management will be used with appropriate qualification. Actions carried out by individual landholders for private benefit will be described as ‘land use’ or ‘agricultural practices’.

Lastly, the term ‘catchment management organisation’ will be used to refer to State-created organisations such as Catchment Management Boards in New South Wales and Catchment Management Authorities in Victoria. The term ‘regional resource

management organisation' will be used to refer to any organisation with natural resource management responsibilities, regardless of whether it is created by a State government or not. Murray Irrigation Ltd is an example of the latter.

1.2 The role of the state

Broadly speaking, the state is a set of institutions that provide for the maintenance of order, the settlement of disputes, the coordination of the activities of citizens and their protection from external threats. The impacts on the environment of economic development, technological innovation and population increase since the Industrial Revolution have introduced new threats to social order and the role of the state has expanded to deal with these threats. In modern industrial nations, the generic roles of the state in relation to natural resources and the environment include:

- improving knowledge about the environment and resources (monitoring, research, education),
- planning and development of strategies and policies,
- controlling the access of individuals and firms to natural resources and environmental assimilative capacity,
- resolving conflicts, and
- enforcement.

The roles of the state relating to the use of land and water resources form the main subject matter of this paper.

1.3 Multi-government resource governance

1.3.1 *Coordinate and cooperative federalism*

At the broadest level, the relationships among governments in a federation can be divided into two types. The first is where each function of the state is neatly allocated to just one level of government, an arrangement that is termed *coordinate*

federalism. Where functions are shared across levels of government, this is termed *cooperative* federalism. In reality, some functions of the state will be amenable to neat allocation and others will not, so that a federation will always be a mixture of coordinate and cooperative federalism.⁶

At the time of the framing of the Australian Constitution, the concept of resource governance scarcely existed, although some functions of the colonial governments were essentially resource governance as it is understood today. Functions such as the granting and administration of leasehold land, and the alienation of freehold land, were amenable to neat allocation among the States under a Constitution that granted to the States those powers not defined as Commonwealth powers (the so-called 'residual powers').

Whatever hopes there may have been for a coordinate Australian federation, the position of State borders in the Murray-Darling Basin and the conflict between irrigation and navigation made cooperative federalism in resource governance inevitable early in the life of the Commonwealth (see section 6.1.3 of the companion report to this paper, Reeve, Musgrave, Frost and Stayner, 2001). The result was the River Murray Commission which, later in the 20th century was succeeded by the Murray-Darling Basin Commission.

However, even without the inconvenient location of State borders, the inter-linked nature of environmental and resource management issues, and the tendency of these issues to span all sorts of jurisdictional boundaries, means that resource governance in the Basin is inevitably an exercise in cooperative federalism.

1.3.2 *Cooperative federalism in other countries*

The Murray-Darling Basin is not unique in this respect. A number of other nation states have federal systems of government.

These include the USA, Canada, and a number of European countries. In the USA, environmental quality, for example, has generally been managed through cooperative agreements between the US Environment Protection Agency (USEPA) at the Federal level, and the agencies of the individual States of the USA.⁷ The USEPA sets the criteria defining an acceptable environmental program.⁸ The implementation of the program is the responsibility of individual States⁹. The USEPA assists States to establish programs and retains the authority to take enforcement action in cases where State programs are failing to meet the criteria for acceptable performance.

In the Netherlands, environmental quality is protected by dividing responsibility for different types of industry between different levels of government. The national government is responsible for the environmental regulation of the nuclear power and chemical waste processing industries, the provincial governments for individual large plants, such as oil refineries, and municipal governments for the remainder of firms having impacts on the environment. The three levels of government work cooperatively to improve the effectiveness of environmental compliance programs.¹⁰

1.3.3 *Advantages of centralisation and decentralisation*

Experience in federal systems of government suggests that good arguments can be found in favour of both centralising and decentralising resource management responsibilities. In policy debates about resource management policy, there tend to be consistent patterns of support among different interest groups for centralisation or decentralisation.

Among the arguments for decentralisation of resource management responsibilities are:

- better knowledge of local conditions,

- better matching of programs to these conditions,
- greater policy diversity and experimentation,
- avoidance of unnecessary duplication of bureaucratic effort,
- simplicity for clients of programs, and
- communities have more involvement in the decisions that affect them.

These arguments are commonly advanced by governments in the lower levels of federations, for example by State or local governments.

On the other hand, arguments in favour of centralising resource management responsibilities include:

- essential for dealing with problems that span the jurisdictional boundaries of lower level governments,
- central governments may have resources and expertise not available to lower level governments, and can be more strategic in their allocation of policy effort,
- lower level governments may lower environmental standards in competition for private sector investment, and
- the need for national standards in key areas affecting human health, such as hazardous wastes.

Conservation interest groups often favour centralisation of responsibilities as a means of overcoming the perceived undue influence of pro-development interests in lower levels of government.

Industry interest groups, on the other hand, tend to favour a balance between centralisation and decentralisation, with standards established nationally to remove barriers to, or distortions in, trade, and approval procedures operating locally where pro-development interests hold sway.¹¹

2 Historical Trends in the Role of the State

The previous chapter, after clarifying a number of the terms used in this paper, outlined some of the functions undertaken by the state to maintain order amongst citizens who use the environment and resources for their private benefit, and citizens experiencing the side effects of this use. In nations with multi-government federations, the balance between centralised and decentralised functions can be set in various ways — the balance at any one time being a reflection of the nature of resource management problems, the practicalities of administration and the influence of interest groups. This chapter shifts the focus to the Murray-Darling Basin and outlines some of the trends in the roles that the Commonwealth, State and local governments play in the management of the resources of the Basin.

2.1 Historical context

The changes that have occurred during the 20th century in the resource management roles of the Basin governments have not taken place in isolation from the changes in agriculture, regional economies and the broader evolution of public policy over the period.

In the late 19th and early 20th century, and despite some serious droughts, the generally favourable economic conditions for agriculture led to the provincial cities and towns of the Basin enjoying a period of prosperity and civic amenity that could be thought of as the ‘golden age’ of rural Australia. Federation in 1901 had turned a group of colonies into a nation, and the ‘golden age’ was proof positive of the young nation’s rosy future if the past policies of closer settlement and state provision of infrastructure continued to be pursued. The third plank of nation-building — tariff protection — fell into place after federation, a consequence of an alliance between the protectionist Liberals and the Labor Party.¹²

For some sixty years, the Basin, along with the rest of Australia, rode on the sheep’s back, while the increasingly less favourable conditions on world markets were offset by the productivity gains and expansion of agriculture through new technology and state-provided irrigation infrastructure. The symptoms of the massive landscape re-adjustment that had been unleashed by agriculture (soil erosion

and salinity) went largely unnoticed by politicians, with the exception of a period about World War II when most States enacted soil conservation legislation.

About the late 1960s and early 1970s, a number of events combined to produce what appears to be a critical policy watershed for natural resource management in the Basin.

On the macro-economic front, confidence in Keynesian prescriptions evaporated in the face of persistent stagflation and the arguments of monetarism. The tariff barriers and statutory marketing arrangements that had provided prosperity during the nation-building phase were seen as impediments to future prosperity as Australian commodities faced greater competition in a globalising world economy.

With greater attention on micro-economic reforms in the 1980s, the earlier critiques by economists of the squandering of public funds in irrigation development began to receive political attention. As the challenge to dominant world views posed by the rise of modern environmentalism in the late 1960s was absorbed into policy discourse, soil erosion and other forms of land degradation became environmental problems rather than agricultural extension problems. At the same time, agriculture was becoming less important in both the national economy and in the economies of

the towns and cities of the Basin, while new interest groups such as conservationists and Aboriginal land rights groups were laying claim to land and rivers that had been the exclusive domain of agriculture.

Lastly, as it became evident that the land degradation problems were national in scope, and with public dissatisfaction with the rate of progress of State governments, the Commonwealth government became increasingly involved in natural resource management. With increasing pressure in the 1990s for local government to take on resource management responsibilities, the era of full-blown resource governance — resource management by multiple governments and interest groups — had arrived.

The period from the 1980s to the present has been a period of great change in agriculture and natural resource management policy in the Basin. The overview report (Reeve, et al., 2001) that is a companion to this report, provides an account of these changes. Before turning to some of the trends in the role of governments during this period, it is worth drawing attention to several aspects of these changes that are relevant to later discussion in the paper.

2.2 Trends in public participation

The rise of modern environmentalism in the late 1960s brought with it a demand for direct involvement of the public in urban planning decisions, rather than through elected representatives. About the same time, the urban and regional planning literature began to draw a distinction between planning as a technical activity by a central professional elite and planning as a facilitated negotiation between competing interests¹³. Public consultation with those affected by development proposals seeking planning consent was an important part of the negotiation process. Since that time, public participation has come to be an important part of the practice of urban and

regional planning, although several studies suggest that the advances in participatory institutions made in the late 1970s have since been partly dismantled.¹⁴

Perhaps more importantly for the purposes of this paper, the same trend occurred in the rural planning activities carried out by State government agencies. Although a form of regional land resource planning with a participatory flavour had been developed in Victoria in the late 1950s and early 1960s (group conservation areas) and in New South Wales in the mid-1960s (group schemes), it was not until the mid-1980s that public participation began to be extensively discussed in a land resource planning context, particularly in the context of integrated catchment management.

However, in comparison to urban and regional planning, in which public consultation was explicitly about resolving conflicting interests, integrated catchment management adopted an approach to public consultation which tended to play down these conflicts. Integrated catchment management was about 'land managers' and 'stakeholders', who 'all lived in a catchment', 'owned the problems' and achieved its aims by, in the words of Cunningham (1986:5):

people talking to one another, understanding one another's problems and co-operatively setting about solving them with a common objective in mind.

During the 1990s, with landcare in ascendance, this conciliatory approach was further enhanced with the entry of notions of 'empowerment' into policy discussion about integrated catchment management and landcare.

The nature of public involvement and empowerment through the National Landcare Program has remained largely unstructured and diffuse. On the other hand, the increasing institutionalisation of the ideas of integrated catchment management in succeeding pieces of legislation among the Basin States, together with the more explicit

acknowledgement of conflicting interests in the COAG water reforms¹⁵, has resulted in a trend toward more structured public consultation. One form of this, and which entails the public taking on some responsibilities in return for having a voice in decision-making, is co-management (sometimes referred to as government-community partnerships).

2.3 Trends in policy instruments

The last thirty years of water and land resource management in the Basin have seen an enormous increase in the diversity of policy instruments used by the Basin governments. The changes can be considered under the headings of the generic roles of the state described in section 1.2.

2.3.1 Creating knowledge

The amount of research being conducted that is relevant to natural resource management has increased significantly in the last decade. New policy approaches that have been introduced include:

- industry levies matched by the Commonwealth to fund research through the R&D Corporations,
- programs to encourage research and monitoring by farmers and members of the community,
- greater integration of research with State and catchment resource management strategies,
- more outsourcing of research functions by resource management agencies, and
- greater emphasis in research management on communicating and encouraging the adoption of findings.

2.3.2 Plans and strategies

One of the most marked changes in the last decade or so has been the great increase in government resources devoted to the formulation of plans and strategies.

Much of this has been under the rubric of integrated catchment management, which is dealt with in detail in the next chapter. As discussed in section 2.2 above, much of this planning effort has been accompanied by the development of policy instruments for involving the public, particularly local and regional committees of various forms. There has also been an increasing emphasis on trying to obtain voluntary change in landuse and agricultural practices through the planning process, either by the application of managerial principles like time bound objective setting, or by appeals to altruism and a 'land ethic'. Another policy approach that is increasingly being considered is the tying of the provision of government funding to the development and implementation of regional plans.

2.3.3 Access to resources

The basic means by which the state gives individuals access to land and water resources is through the granting of various forms of title and licences, i.e. the institutions of property. The institutions that give access to land resources, in particular, have undergone relatively little change. This is the case in most Western liberal democracies, although the political sensitivity of state experimentation in the institutions of land and other resource ownership is probably heightened in emigrant societies such as Australia.¹⁶

There have, nevertheless been some changes. These include the introduction of conservation covenants and changes to the administration of leasehold land.¹⁷ More importantly, the Mabo and Wik decisions have introduced the possibility that persons may have some form or proprietary interest in land other than through the conventional Western notions of ownership.

In the case of water resources, there have been significant changes in government policy over the last thirty years. These have been described in detail in two of the companion papers to this issues paper, the

overview report by Reeve et al. (2001) and the paper on legal issues in water resource management by Tan (2002). A number of aspects of these changes are also discussed in chapter 3.

The key change in the nature of the policy instruments used by the Basin governments is the shift away from an administrative approach to water allocation towards harnessing market forces through the privatisation and/or corporatisation of irrigation trusts and the regional branches of State agencies which operated irrigation systems, and through the creation of markets in water entitlements.

In parallel with the trends in land resource management, there has also been a shift towards policy instruments that formalise the involvement of the public and interest groups in water resource planning.

2.3.4 *Resolving conflict*

An important role of the plans and strategies discussed in section 2.3.2 above is to reduce conflict between citizens by attempting to minimise the spillover effects between different and/or competing uses of land and water resources, as well as encouraging changes in use in the common good. However, conflicts still occur and the state needs to provide the means of resolving them.

In the past thirty years there has been a growing diversity of approaches to resolving resource conflicts, some successful and some less so. Among the approaches that have been used are:

- appeal to Commonwealth powers under the Constitution (e.g. the Fraser Island sand mining and Franklin River conflicts),
- establishment of statutory authorities, such as the Australian Heritage Commission in the 1970s and the Resources Assessment Commission in the late 1980s, to resolve conflicts by scientific investigation,

- establishment of boards, authorities, committees or inquiries to take evidence from experts, hear representations from interest groups and the public, and provide advice to Ministers or other policy makers, and
- employment of alternative dispute resolution techniques.

2.3.5 *Regulatory enforcement*

Enforcement has always posed difficulties in rural Australia. As with absolutist views of property rights, these difficulties have their origins in the history of settlement. Condoned lawlessness, particularly when that lawlessness is directed toward distant and unpopular authority, is often a feature of frontier societies. The new conditions of the frontier society tend to outrun the capacity of the state to provide new institutions appropriate to these conditions. As a result, breaking the law of the state is seen as justifiable.¹⁸ Australia was no exception, commencing with squatting, followed by license evasion on the goldfields, peacocking in the closer settlement era, right through to 'accidental' entanglement of water meters with fishing line in the present day.

The social dynamics of small communities also plays a part. It is difficult for government employees in regional areas to be enforcement agents when they have on-going social relationships with many members of the community.¹⁹ Consequently, there has generally been little enthusiasm for increasing enforcement in relation to land and water use. As a consequence, regulatory enforcement has not seen the diversification and experimentation that has occurred among other policy instruments in the last thirty years. The separation of regulatory and operational or extension roles into separate agencies²⁰ has gone some way towards dealing with at least one of the difficulties outlined above. However, the difficulties that have accompanied the enforcement of the provisions of the Native Vegetation

Management Act in New South Wales suggest that regulatory enforcement will remain a contentious instrument for the foreseeable future.²¹

2.4 Distribution of responsibility between governments

2.4.1 *The Constitution*

The Constitution gave the Commonwealth government no responsibilities in areas that would be seen today as natural resource management. However, the emergence of modern environmentalism in the late 1960s put pressure on the Commonwealth government from two directions. Firstly, as a consequence of the Stockholm Conference of 1972, international agreements on environmental matters began to impose responsibilities on individual nations, which responsibilities in Australia's case fell under the external affairs provision (§51(xxix)) of the Constitution. Secondly, as a consequence of growing public awareness in Australia, a number of iconic environmental issues such as the Great Barrier Reef, Fraser Island sand mining and the flooding of Lake Pedder found their way onto the national political agenda. In the case of Fraser Island, the Commonwealth government used its overseas trade powers under the Constitution (§51(I)) to halt sand mining. In the 1990s, additional powers relating to world heritage areas became available to the Commonwealth.

2.4.2 *The 1970s and 1980s*

For much of the 1970s and 1980s, the Commonwealth took a role of ad hoc responses to emerging international obligations and nationally contentious developments.²² Naturally, there were a number of challenges from the States to the widening powers of the Commonwealth with respect to State development projects. However, the courts generally found in favour of the Commonwealth, the list of exclusive

Commonwealth powers in §51 of the Constitution providing ample scope for statutory interpretation by the courts to support the Commonwealth's actions to protect the environment. This resulted in the Commonwealth having wider powers in relation to the environment than earlier readings of the Constitution would have suggested.

2.4.3 *Land resource management*

The situation was somewhat different, however, for land resource management. In this policy domain, the Commonwealth had no usable Constitutional provisions available to it. The Collaborative Study (Department of Environment Housing and Community Development, 1978), caused considerable concern about the levels of land degradation it reported. However, the conservation movement at that time was more focused on iconic wilderness and preservation issues, so that there was no interest group pressure to elevate land degradation onto the national political agenda.

Commonwealth involvement in land resource management began modestly with some Commonwealth funding to the States in the late 1970s, followed by the establishment of the National Soil Conservation Program in 1983. This Program encouraged the use of agricultural land within its capability, land use decisions based on whole catchment planning concepts and the cooperation of all sectors of the community in solving land degradation problems. While the Program altered the pattern of incentives facing the States, their responsibilities for land resource management remained unaffected.

The situation was different yet again for water resource management. In this case, the one water resource that had the potential to be a national issue — the Murray-Darling Basin — already had institutional arrangements in place for sharing responsibilities among the Commonwealth, New South Wales,

Victoria and South Australia. The emergence of water quality as a concern in the 1980s was responded to via the cooperative institutions already in place in the form of the River Murray Waters Agreement and the River Murray Commission.²³ After several years of meetings and negotiations among politicians and bureaucrats of the Basin governments, the Murray-Darling Basin Agreement was established, firstly as an amendment to the River Murray Waters Agreement in 1987, and as a replacement for the latter Agreement in 1992. This involved the passing of complementary legislation in the Basin States, and the formation of a Ministerial Council, a Commission and a Community Advisory Committee.²⁴

2.4.4 The emergence of cooperative federalism

In environmental matters more generally during the 1980s, cooperative federalism replaced the previously adversarial Commonwealth-State relationships of the 1970s, building on the networks that had been forming since the 1970s among professionals in the new environment departments. This led, in 1992, to the Inter-Governmental Agreement on the Environment, which attempted to clarify the roles of the Commonwealth and the States in environmental matters, provide mechanisms for resolving difficulties in accommodating the interests of the Commonwealth and the States and provide principles for the development and implementation of environmental policy by the Commonwealth and the States.

In the same year, following a long tradition of Commonwealth-State coordination through ministerial councils, the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) was formed by the amalgamation of the Australian Agricultural Council, the Australian Soil Conservation Council and the Australian Water Resources Council. The role of ARMCANZ was to formulate national

resource management strategies and policies which, in some cases, can be implemented through complementary legislation in the States. ARMCANZ was supported by the Standing Committee on Agriculture and Resource Management (SCARM), comprising department heads from the Commonwealth and States. The Sustainable Land and Water Management Committee of SCARM, established in 1996, had a key advisory and coordinating role in matters pertaining to natural resource management.

Under the recently established Intergovernmental Agreement on a National Action Plan for Salinity and Water Quality, a Natural Resource Management Ministerial Council is to oversee the implementation of the National Action Plan. This Council is also to have responsibility for resource management matters formerly dealt with by ARMCANZ and the Australia and New Zealand Environment and Conservation Council.

2.4.5 Local government involvement

As the institutions of cooperative federalism in natural resource management were put in place during the late 1980s and 1990s, and the States turned to catchment-based planning, it was inevitable that local government would be drawn into the net of coordination. Because local governments are creations of the individual States through their local government Acts, their assumption of responsibilities in natural resource management has tended to be brought about by State legislative initiatives. Examples of this are the inclusion of local government in state of the environment reporting procedures, and the representation of local government on statutory catchment management bodies.

Local government has also become involved in natural resource management in a less formal way through accessing Commonwealth funding (such as the Natural Heritage Trust), and through

programs that have been established by local government associations at regional, State and national level.²⁵

2.4.6 COAG water reforms

While the COAG water reforms were more a reflection of the influence of the ideology of economic rationalism on policy, than of purposeful experimentation with cooperative federalism, they appear to have been somewhat exceptional in magnitude of the changes being attempted, the strength of the incentive structure and the strength and transparency of the link between performance and incentives. Consequently, the reforms have extended the scope of what might be considered as the institutions of cooperative federalism.

Under the COAG water reform framework, all jurisdictions have agreed to a codified water reform process, the implementation of which is being monitored by the National Competition Council. Further, payment to the States, by the Commonwealth, of the agreed 'dividends' flowing from the implementation of the National Competition Policy is dependent on endorsement, by the Council, of progress in water reform.²⁶

To date, while the process is not complete, the COAG framework, coupled with the National Competition Policy process of review and reward, appears to have been a successful exercise in cooperative federalism, with all jurisdictions having made significant progress with its implementation. The States and the Commonwealth have jointly developed a non-coercive process, incorporating a set of principles, targets and incentives, which provide guidance to the States while they

determine their own best course of action, within a highly consultative framework.

As Quiggin (2001) notes, the COAG water reform framework has reinforced policy preferences for price-based and market-based policy instruments. However, these instruments are to operate within the broader and now almost ubiquitous planning framework of integrated catchment management (ICM).

2.4.7 Concluding comments

In summary, the elaboration of institutions for cooperative federalism in natural resource management during the late 1980s and 1990s has not resulted in a distribution of powers and responsibilities markedly different from that envisaged at the time of the framing of the Constitution. Rather, it has been an important institutional adaptation to the pressures on governments in the latter part of the 20th century.

The federal system of government put in place in 1901 has proven to be remarkably adaptable, the most recent and promising adaptation being the COAG water reforms. However, the complexity and inter-relatedness of resource management issues remains a challenge to resource governance in a federation.

In such an environment, integration of resource management effort is essential. The 1980s and 1990s have seen a growing emphasis in this area, with the emergence of integrated catchment management as a dominant influence on resource management policy. The next chapter turns to a consideration of the relationship between resource governance and integrated catchment management.

3 From ICM to Resource Governance

The previous chapter discussed the changes that have taken place in the last thirty years or so in the role of governments in natural resource management in the Murray-Darling Basin, and in Australia more generally. The overall picture is one of natural resource management issues that seem to be increasingly complex, of increasing diversity in the policy approaches and instruments being used, and of rising expectations among the public of their involvement in the decisions that affect their lives. In such a situation, the frequent calls for improved integration of policy effort are understandable. Integrated catchment management (ICM) has been at the forefront of such efforts for a decade or more and is likely to remain a central aspect to resource governance in the Basin.

3.1 ICM

3.1.1 Trends in ICM

ICM in Australia grew out of the successes of the Victorian and New South Wales soil conservation agencies in the 1950s and 1960s in the rehabilitation of eroded catchments to protect water quality and the life of water storages. Planning, coordinating and group extension capabilities were developed by these agencies in catchment-wide projects such as the Eppalock project in Central Victoria and the Goorianawa project in New South Wales.

The Collaborative Study (Department of Environment Housing and Community Development, 1978) brought a growing awareness that the land degradation problems in rural Australia included more than the soil erosion problems that had been the focus of the successful catchment projects of the 1950s and 1960s. During the early to mid-1980s, the terms integrated catchment management and total catchment management began to appear more frequently in policy discussions by soil conservation professionals. ICM was seen as addressing the problem of fragmented approaches to land resource management. It was also believed that greater collaboration among stakeholders in planning solutions to problems of land

degradation would lead to wider adoption of sustainable practices.²⁷

In respect of the latter, it was believed that involving local communities in planning strategies for investing in natural-resources conservation would lead them to accept a greater share of the costs of implementing those investments.

While there was broad agreement about these ICM ideals, the Basin States went about achieving the ideals in different ways. For example, South Australia and Queensland did not pass legislation aimed specifically at creating catchment management organisations, preferring to rely on powers under existing legislation and coordinating structures and networks among existing agencies with resource management responsibilities.

New South Wales was the first Basin State to pass catchment management legislation (the Catchment Management Act in 1989). The arrangements put in place by this Act suffered as local resource management committees continued to proliferate in response to pressures for improved management of water resources and remnant native vegetation. New South Wales is currently attempting to restore some cohesion to ICM through the

establishment of a smaller number of Catchment Management Boards.

Victoria introduced Catchment and Land Protection Regional Boards in 1994 with the Catchment and Land Protection Act. In 1997, the functions of these boards and others with resource management responsibilities were consolidated in Catchment Management Authorities. Victoria could be said to have proceeded further than other Basin States in its attempts to establish funding stability and autonomy for its Catchment Management Authorities.

Despite the different approaches to ICM in the Basin States, there have been a number of common developments over the last decade. Among those identified by Bellamy et al. (2002) are:

- a broadening of the ambit of problems considered to be under the ICM umbrella,
- increasing emphasis on local participation,
- increasing emphasis on governments taking facilitatory roles, and
- a recognition that more needs to be learnt about the social and political aspects of natural resource management if the current large body of biophysical knowledge is to be used effectively.

To these can be added the trends noted by Marshall (2001):

- an increasing tendency for government funding for local land resource management to require local funding contributions (including in-kind contributions),
- increasing formalisation of these funding arrangements in partnership agreements, and
- growing concerns about accountability.

3.1.2 Some tensions within ICM

With the advantage of hindsight, it is possible to identify some tensions that have accumulated within the concept of

ICM as it has evolved. While this is normal within the body of beliefs and values underlying a policy approach that has widespread support, reflective policy analysis and clarification of these tensions can assist in identifying future directions for policy.

The first of the tensions has been noted by Marshall (2001) who argued that there is now some distance between the original vision of ICM as a vehicle for promoting voluntary adoption of conservation measures, and the increasing demands for catchment management organisations to be held accountable for their cost-sharing commitments. As has occurred with landcare, the goodwill built around government support for voluntary adoption of sustainable practices can be diminished by bureaucratisation and onerous accountability procedures. The standards of operation of bureaucracies with their salaried staff and defined responsibilities cannot be applied to networks of volunteers.

Secondly, integrative policy efforts have inevitable centralising tendencies. If one wishes to integrate A with B, then one must be in a position to comprehend both A and B and have the power to include them in the 'integrated' policy. Extending this to C and D and so on, it can be seen that integrated catchment management implies management centralised for the catchment in question, generally within a catchment management organisation. This aspect has a discomfiting tension with the participative and empowerment aspirations of ICM. Even if the concerns of the catchment community are to be 'integrated' in a catchment strategy, a central catchment management organisation has to do the integrating. Farmers have traditionally had a dislike for bureaucracy and there is a real danger that catchment management organisations could be seen as yet another layer of bureaucracy making their lives more difficult for them.

Thirdly, there are also some tensions in the concept of 'empowerment' that has been

used widely in ICM policy discussion. The assumption underlying the notion of empowerment is that rural communities lack the ‘power’ to act cooperatively and voluntarily to deal with the environmental problems they face. This notion of ‘disempowerment’ does not fit well with Bradsen’s (1988) claim, made after his review of the State soil conservation Acts, that farmers had been quite successful in influencing legislatures to abstain from regulatory pressure for improved land management for some forty years.²⁸ In comparison, other industries such as mining and manufacturing have borne a substantial increase in regulations to protect the environment. Although farmers tend to have relatively more political power than many other groups that make up a similarly small proportion of the national population, they nonetheless experience a great deal of powerlessness in other ways. These include their inability to insulate themselves from the unpredictable swings in prices and seasonal conditions. The rhetoric of empowerment will often have a hollow ring about it for those on the roller coaster of variable prices and seasons.

The tensions described above probably lie at the root of some of the concerns that have been expressed in recent reviews of ICM in Australia.²⁹ More importantly, these tensions are likely to contribute to growing cynicism and disenchantment among landholders, whose cooperation and goodwill is essential to natural resource management in the Basin.

In reflecting upon how some of these emerging tensions in ICM might be addressed, it is useful to draw a distinction between ICM-the-ideal, and ICM-the-practice (i.e. the practice of ICM that has developed over the last 20 years). There is absolutely no doubt that the ideal is central to effective resource governance in the Murray-Darling Basin and elsewhere. However, the good sense of the ICM-the-ideal does not remove the need to strive for improvement of ICM-the-practice.

The previous discussion suggests that the nature of ICM-the-practice as direct government intervention may lessen the prospects for widespread landholder participation in catchment management. This leads to the question as to whether there may be less direct means of achieving the ideal of ICM. As an analogy, supply and demand in an economy can be matched directly by central planning, or indirectly by the ‘invisible hand’ in the functioning of markets. Of course, neither the centrally planned economy nor free market economy works exactly as we would wish and economic policy generally aims for a balance between the achievement of economic goals by direct intervention in the economy, and by the indirect means of allowing markets to function freely.

From the sources reviewed in the preceding sections of this paper, it appears that relatively little policy analysis has been directed to the question of whether there exist indirect means of achieving ICM-the-ideal — an integrative ‘invisible hand’ for catchment management. If such indirect means exist, the question that follows is what should be the balance between the direct means that have traditionally been the foundation of ICM-the-practice and any suitable indirect means. The remainder of this paper addresses these two questions.

3.2 ICM as governance

3.2.1 *Trust and cooperation*

In recent years, commencing with the pioneering work of Ostrom (1990), a body of theory, with considerable empirical support, has emerged that suggests there may be an ‘invisible hand’ that can guide resource governance, particularly at the local and regional level.³⁰ The central problem in local groups managing their use of resources for the good of all is one of trust. (‘If I invest in reducing my farm’s accessions to the water table, will others around me also do this, because if they don’t my investment will have been

pointless'). In general, the more members of the group trust one another, the more cooperative management of the resource is possible.

There is convincing evidence from the work of Ostrom and others that trust and cooperative resource management in small groups are mutually reinforcing.³¹ People build trust by working together and greater trust enables them to tackle increasingly more difficult management problems, which builds further trust, and so on. This mutual reinforcement can be thought of as a 'virtuous circle'.

This virtuous circle provides an explanation as to why resources shared among a group of individuals can be used without the occurrence of the 'tragedy of the commons' famously predicted by Garrett Hardin (1968).³² Strictly, Hardin's formulation of the problem of herdsmen degrading a common grazing area was a tragedy of open access, i.e. a resource shared between users among whom there are no institutions limiting the level of use by individuals.

The concept of open access is vitally relevant to the Murray-Darling Basin because the ongoing problems of land degradation in the Basin tend to be the workings of tragedies of open access. For example, rising watertables occur because the individual who increases accessions to the watertable with a particular agricultural practice captures all the benefits from this practice, while the costs of rising watertables are spread across all whose land overlies the watertable. The collapse of regional biodiversity and the pollution of rivers by sediment, nutrients and pesticides are also tragedies of open access.³³

A state faced by tragedies of open access has a number of options. It can assert its authority to regulate open access resources, thereby converting them to state property. This can be followed by the granting of forms of private property to individuals wishing to use the resource (as when squatters were granted grazing

licences, when the riparian doctrine was replaced by water licences, or when freehold title is granted to an area of Crown land). As can be seen from the preceding examples, this has been by far the most common way of preventing or reversing tragedies of open access during the European settlement of Australia. The constantly increasing problems of land degradation in the Basin would suggest that this approach has been less than adequate.

An alternative is for the state to encourage the emergence of a degree self-governance at the local scale through the operation of the virtuous circle discussed above.³⁴ The possibilities for local scale self-governance in resource management are canvassed in further detail below after dealing with the question of how such self-governance fits within the broader context of governance by the state.

3.2.2 From commons to governance

As the number of cooperating individuals using a particular resource increases, there is a point at which difficulties in maintaining trust begin to emerge. This is due to the decreasing opportunities for social interaction among all members of the group. However, this may be overcome if the group develops some form of hierarchical or vertical organisation. For example, sub-groups might provide representatives to an overarching council or committee, where the norms and expectation of trust and cooperation could continue to work in a virtuous circle.

There is now considerable empirical evidence that larger groups can sometimes organise themselves hierarchically in order to design, implement, monitor and enforce formal institutional arrangements (e.g., Ostrom, 1990). If the simpler small scale problems are being solved cooperatively, the task of developing the vertical organisation needed to resolve more difficult problems becomes easier. In this way, it can be possible for vertical organization to build of its own accord.

The organisational entities at the higher levels in the hierarchy fulfill two roles — dealing with problems whose scope exceeds the capacity of a single entity at the lower levels, and providing support to facilitate the workings of the virtuous circles at the lower levels. The former role requires that the higher level entities pass resource condition goals deduced from the larger scale problems to the lower level entities. For example, a regional resource management organisation dealing with a groundwater depletion problem might determine different reductions in extraction for various zones of the aquifer and these reductions would be passed to the smaller self-governing groups corresponding to these zones.

3.2.3 *Trust in governance*

The previous discussion has highlighted the importance of trust among resource users in building a resource governance framework founded on small self-governing groups of resource users. Once resource governance involves a vertical multi-level hierarchy, the matter of trust between the individuals and the legitimacy of institutions at different levels becomes an important concern. This can be termed trust in governance.

The nature of trust in governance

Trust in governance is more complex than trust within a small group of resource users. The latter is built upon relatively frequent social interaction and the knowledge that this interaction will continue into the future. This is the trust that develops in communities of frequently interacting individuals. In a multi-level resource governance hierarchy, however, individuals at one level have to trust that individuals in the next level up are behaving according to the rules for that level. Only if they have this trust, will they regard the recommendations from the level above as legitimate and feel some responsibility to implement them. To

continue the example above, the local groups in the different aquifer zones will only feel some responsibility for implementing the reduction targets recommended by the regional group if they believe that their interests have been fully and fairly represented at the regional level. This feeling of responsibility is also enhanced by power sharing, when the upper level passes to the lower level the necessary powers to undertake all the governance tasks that can be effectively carried out at that level — the principle of subsidiarity.

As we move further up the resource government hierarchy, the possibilities for frequent and ongoing social interaction among individuals become less. Once the coordination between levels is built upon complex bureaucratic and political institutions, trust in these institutions becomes more important than trust in individuals through social interaction.³⁵

Trust, legitimacy and values

A person's trust in bureaucratic and political institutions, i.e. trust in government,³⁶ is strongly related to their beliefs about the appropriateness of the ways in which these institutions originated. Work in other areas of resource and environmental management suggests that there are three broad ways in which collective decisions are made about environmental problems.³⁷ The terms that have been used to encapsulate these approaches are administrative rationalism, pluralism and communitarianism.³⁸

The administrative rationalist approach assumes that good natural resource decision-making is done by the application of science. Modelling and planning are expected to uncover the best way of allocating natural resources. Administrative rationalism also assumes that facts and values can be separated, and that only the former, and never the latter, should enter into decision-making. The scientific values of objectivity, precision and repeatability are important in

administrative rationalism. Also important are the administrative values of clear specification of objectives, evaluation of performance and accountability. Integrated catchment management without its participative dimension is an example of administrative rationalism in action.

The pluralist approach assumes that good decision-making is inevitably political, not technical. It accepts that there are inescapable conflicts between the interests of those involved in the issue, that values matter more than facts and that the final outcome may result in some interests being the losers. What is important to pluralism is that all interests have equal opportunity to be represented and to have their say in the policy process. Fairness and representation in arriving at the outcome are more important than whether it is optimal in some technical sense. A good decision, then, is one arrived at through fair and open political negotiation. The process leading to Regional Forest Agreements is an example of pluralist decision-making in resource management.

The communitarian approach assumes that only the community itself is capable of discovering its own interests. This approach places importance on concepts of participation, consultation and empowerment. That there appear to be conflicts of interest is taken as evidence of the disappearance of community under the weight of modern individualism. If the sense of community of the past was restored, it is argued, these conflicts would disappear. Experts and bureaucracy are distrusted as being removed from, and 'out of touch' with local reality. Pluralist politics is also rejected as being tarnished with the selfish pursuit of individual interests. Processes that might be regarded as fair from the pluralist perspective, can be seen as marginalising the community and submerging its interests in 'power politics'. Some branches of the landcare 'movement' and rural lobby groups argue from a communitarian standpoint.

Having described these three approaches, it can be seen that many of the difficulties that have emerged in the last decade in the practice of resource management have their origins in the tensions between administrative rationalist, pluralist and communitarian values. The complaints from landcare groups, for example, about the excessive bureaucratisation of landcare are a consequence of the difference between communitarian and administrative rationalist views as to how the performance of landcare projects should be judged. The complaints from agency staff involved in ICM about interest groups 'playing politics' are a consequence of the difference between the administrative rationalist and the pluralist view of how collective decisions about catchment land uses should be made.³⁹

The existence of these tensions between the values inherent in administrative rationalist, pluralist and communitarian approaches to finding the public interest does not necessarily imply that natural resource management has to rest with just one approach. Realistically, all three approaches have their place — the identification of these tensions highlights the need to be aware of the values that underlie natural resource management policy making.

Trust and electoral politics

In addition to the difficulties these value conflicts pose for building levels of trust in governance, there are other factors involved. Most Western democracies have experienced a decline in the perceived legitimacy of elected governments in recent times. One reason for this that is particularly relevant to rural Australia has been put forward by Manin (1994). Manin has argued that, since the 1970s, there has been a gradual transformation in the nature of representative government from what he terms 'party democracy', which arose in the mid-19th century, to 'the tribunal of the public', a term Manin coined to

describe the politics on the late 20th century.

The term ‘party democracy’ describes representative government where there are strong associations between social class and culture on the one hand, and political parties, political ideology and policy platforms on the other. In the mid-20th century, many primary producers belonged to a recognisable social class and voted for a party that solely represented farming interests. Similarly, shearers could vote for a party that represented workers’ interests. However, the comfort of being able to vote for a political party with a clearly differentiated policy platform reflecting interests of readily definable groups has been replaced by the uncertainty of late 20th century politics. This is characterised by policy convergence among the major parties, a focus on the personalities of leaders and the susceptibility of politics to opinion polls and media-savvy interest groups.

As a consequence, many rural people feel disenfranchised and distrustful of government. Commitment by governments of all persuasions to micro-economic reforms that have benefited metropolitan Australia more than rural Australia has also been a factor in rural disillusionment with politics and government.

Concluding remarks

This section has argued that there may be considerable potential for small scale local self-governance in resource management. This view is consistent with much of the rhetoric that has emanated from the landcare movement about grass roots involvement and control, although the treatment in the previous section provides reasoning and empirical evidence that, to date, has been absent from the rhetoric. There are, however, significant difficulties in connecting local self-governance with larger scale resource governance carried out by Commonwealth and State governments. Despite these difficulties,

there is some cause for optimism in the progress that has been made in the Murray-Darling Basin in the processes involved in the preparation of land and water management plans (LWMPs) in the irrigation areas of New South Wales.

3.3 The LWMP Experience

During the 1990s the NSW Government sought to withdraw from its involvement in the provision of irrigation infrastructure rehabilitation and renewal, and to reduce its exposure to future financial risk in that area. It did this by transferring ownership of infrastructure of each irrigation area to an irrigation company owned by the irrigators of the area.⁴⁰

In order to promote the long-term sustainability of the new irrigation enterprises the Government, *inter alia*, included in the water licence of the larger of the new companies, the requirement that the irrigation community, with the assistance of the Government and the irrigation corporation, had to develop a Land and Water Management Plan to the Government’s satisfaction. In approving the Plan, the Government would commit itself to contribute funds, over 15 years, to an agreed program of works (Taylor et al 2001).

The Plans are to meet clearly articulated objectives. The Government required the programs of works to satisfy economic and environmental criteria, consistent with those objectives. The corporations, which have contracted with the Government to implement the Plans, have committed themselves to the full 30 years of the negotiated programs of works.⁴¹ Six Plans have been negotiated and are in the process of implementation.⁴² While it is early days for most of the Plans, those of the Murray have been in place for seven years and were rigorously and successfully reviewed in 1999.

A distinguishing feature of these Plans is that the state funded the planning effort,

which was undertaken by a community-working group. The working group commissioned the necessary research and document preparation, albeit with considerable input of government expertise. The principle throughout, however, was that the Plan belonged to the community and that this could only be true if the working groups had the necessary resources and control. In this, the Land and Water Management Plan process is different to many, though not all, Australian resource management programs based on community-government ‘partnerships’.

There are two matters of note relating to the Plans. Firstly, the development of the Plans was reliant on the coercive powers of the state. Secondly, the ongoing funding of the plans has experienced some difficulties due to differences in the policy goals of New South Wales and the Commonwealth.

While not perfect as examples of nested hierarchical resource management institutions, the Plans are, however, good examples of what can be achieved in the form of collaboration between a State and a sub-regional community. In particular, they provide examples of how the complementary strengths of governments and communities can be incorporated in an effective resource governance framework that connects Commonwealth and State resource management with local scale self-governance. They also provide an example of the effective choice by the community of a trusted ‘third party’, the irrigation corporation itself to implement the agreement between the irrigation community and the state government, and to monitor and enforce observance of agreed action by members of the community.

3.4 The Connection Challenge

The discussion to this point has sketched some of the contours of natural resource governance, both from the perspective of

how it ideally might be conducted, and as it is presently conducted in the Murray-Darling Basin within the context of cooperative federalism and the practice of ICM.

Within this context, natural resource governance is inevitably hierarchical and nested – the Basin comprises parts of more than one State, the States have more than one catchment management organisation and each catchment contains more than one local group with in an interest in a small part of the catchment.

The functioning of the vertical dimensions and the horizontal dimensions of the hierarchy are equally important. The contractual arrangements between the Commonwealth and the States embodied in the COAG water reforms (and the National Competition Policy in which they are embedded) provide a promising model for how the upper levels of natural resource governance should be organised within the context of cooperative federalism.

In section 3.2.1, a strong case has been made that groups of resource users have the potential to create their own institutions for self-governance of resource use at the local level.

In addition, as argued in section 3.2.2, there is the potential for local level self-governance to grow upwards towards regional levels of governance. However, the spontaneous emergence of self-governance and its upward growth to regional levels is far from assured. Section 3.2.3 argues that this upward growth requires trust in governance and that the formation of such trust faces some formidable obstacles. These obstacles are not insurmountable, as the description of the New South Wales Land and Water Management Plans in section 3.3 suggests.

Nevertheless, the connection of local level self-governance with the institutions of cooperative federalism at the Commonwealth and State levels will remain a critical area for effective natural

resource management. The prospects for a future resource governance framework very much turn upon the evolution of effective institutions at the regional level

that provide a mediative connection between the local self-governance and State government.

4 The Possibility of Resource Governance

The previous chapter, after identifying a number of shortcomings in ICM as currently practised, concluded that the missing link in resource governance in the Murray-Darling Basin, and elsewhere in Australia, is effective mediating institutions at the regional level. The prospects for effective resource governance turn upon our ability to craft regional mediating institutions that will connect the promising institutions that are emerging within cooperative federalism with those at the local level. This chapter commences with an outline of a full and connected resource governance framework, and identifies some of the important considerations if such a framework is to survive the social, economic and political realities of rural Australia.

4.1 A governance framework

The following description of a hypothetical resource governance framework builds upon the idea of a National Natural Resource Investment Strategy proposed by Kingma and Musgrave (2001). It embodies the lessons of experience to date in cooperative federalist resource management and the lessons of the yet very incomplete experience in connecting State level governance to regional and local levels of governance or self-governance. It also embodies insights from reflection upon the history of resource management touched upon in preceding sections of this paper, and dealt with in greater detail in the companion overview report by Reeve et al. (2001).

The example is a generic template for what might be a workable and enduring arrangement for the sustainable management of natural resource systems in Australia. Variations on this template would have to be developed for specific areas of resource management, such as dryland or irrigation salinity, regional biodiversity, or nutrient and sediment supply to rivers. The National Action Plan on Salinity and Water Quality contains some elements similar to this example.

The essential features of the resource governance framework are:

- A national Ministerial Council for natural resource management which would set national targets for natural resource outcomes (comparable with the Murray Darling Basin Salinity and Drainage Strategy). The States and Territories would sign off on these targets.
- Agreement to fund the investment necessary to achieve these targets through partnership arrangements between the Commonwealth, the States, local governments and relevant communities (including the private sector).
- Agreement between the Commonwealth and the States, that Commonwealth payments to the States should be periodic and conditional on attainment of targets (as with the National Competition Policy).
- A national natural resources audit commission (analogous to the National Competition Council) should review the status of the nation's natural resources and advise the Commonwealth on State progress in relation to targets, and the Ministerial Council on the need to revise targets and adjust the investment program, in the light of growth in knowledge. The commission would also advise the Ministerial Council on the need for legislative reform in areas such as environmental, planning and local government law that may be

impacting on the effectiveness of resource management.

- The States should be free to establish their own contractual partnership arrangements with regional resource management organisations. These arrangements would revolve around negotiated cost sharing agreements (reflecting the principles agreed by the Ministerial Council) and periodic payments conditional upon the achievement of regional targets (deduced from those at the national level). These regional organisations would need to have the capacity to develop the mediating institutions required to form an effective bridge between the contractual arrangements with the State and local self-governance by resource users. The regional resource management organisations could be catchment management organisations created by State governments or other appropriate organisations.
- The natural resources audit commission would also audit the partnership arrangements between the States and the regional resource management organisations to establish that they comply with the agreed partnership principles. Periodic payments to the States would also be contingent upon this compliance.
- Where resource management areas spanned inter-jurisdictional boundaries, an additional layer may be required in the hierarchy. These inter-jurisdictional resource management organisations would be the joint creations of the States involved (such as the present Border Rivers Commission), or of the States and Commonwealth (such as the Murray-Darling Basin Commission). A key role for the inter-jurisdictional resource management organisations would be to deduce and negotiate the resource management targets for the inter-jurisdictional regions.
- The regional resource management organisations would be responsible for the extension of community development and structural adjustment programs to support the development at

the local level of institutions for self-governance such as common property, markets, accreditation, cooperatives, trusts, landcare and other farmer groups. There might be more than one layer of nested self-governance below the regional resource management organisations.

4.2 Practical considerations

The previous section provides a brief outline of a resource governance framework that attempts to provide a continuum of incentives from Commonwealth to local level. It also attempts to achieve a smooth transition between the incentives grounded in the pluralism and administrative rationalism of cooperative federalism, and the incentives at the local level grounded in the values of communitarianism, trust and cooperation.

However, the prospects for this resource governance framework depend upon a number of practical considerations. The following discussion starts at the Commonwealth level and moves to the regional and local level.

4.2.1 Commonwealth level

At the Commonwealth level, it can be noted that Ministerial Councils have an advisory role and their recommendations must be approved by Cabinet. This means that the resource governance framework will only protect natural resources to the extent that the Commonwealth government is committed to doing so.

A particular challenge at the Commonwealth level is the nature of the relationship of the Natural Heritage Trust (NHT) and a resource governance framework. It makes little sense for the Commonwealth to be funding landcare and related programs if this is bypassing the system of targets and incentive payments in the resource governance framework. While attempts of various

kinds have been made during the 1990s to shape the projects under landcare funding to regional catchment management goals, a number of reviews have concluded that these attempts have been largely ineffective⁴³.

A resource governance framework need not, however, require the absorption into the system of targets and financial incentives of Commonwealth programs such as the relevant NHT programs. There is an important role for Commonwealth programs directed specifically to landholders or landholder groups — a role that does not require close integration with the resource governance framework. As discussed in section 4.2.3, below, the building of local human capacity for self-governance is an important precursor to the emergence of enduring institutions at the local level and their upward growth toward regional resource management organisations. Such capacity building programs are likely to be a universal need for the foreseeable future, and are far more independent of catchment plans than programs that involve landuse change.

4.2.2 State level

The resource governance framework outlined in section 4.1 contains some significant challenges for State governments. This is because the catchment management organisations have traditionally been creations of State governments. State political agendas have influenced the form these organisations have taken, and the amount of independence and power accorded them. In some cases (such as the former Catchment Management Committees in New South Wales) the organisations were relatively weak coordinating institutions dominated by landholder interests. In other cases (such as Victoria's Catchment Management Authorities), the organisations have been given more autonomy.

In most cases, the State catchment management organisations were not designed as a level in a nested hierarchy of resource management institutions. Consequently, there are differences across the Basin State in the ways in which the catchment management organisations relate to their State governments and to their local communities. For example, in South Australia and Queensland, the many statutory and non-statutory bodies that have ICM roles have relatively confused accountability and responsibility relationships with their State governments through various advisory councils set up under legislation not specifically concerned with ICM (Bellamy, et al., 2002). New South Wales and Victoria, on the other hand, have more clearly defined relationships originating in legislation with integrative objectives.

There are also differences in how catchment management organisations interact with their local communities, with some States bringing community input into catchment management through representatives of interest groups (New South Wales and Queensland), and others obtaining input on the basis of expertise (Victoria).

To a large extent, the significance for the States of a transition to the resource governance framework depends on how regional resource management organisations develop. Reference has already been made to the critical mediating role of these organisations will need to play, located as they are in the gap between the politics and bureaucracy of cooperative federalism on the one hand, and communitarian and agrarian fundamentalist⁴⁴ values of rural Australia on the other.

If the existing catchment management organisations are to become the regional resource management organisations proposed in the framework, they will need to take on the challenging role of being accountable to the State via contractual arrangements and having their performance monitored by a national

commission, while at the same time trying to avoid the imposition of these bureaucratic institutions of State-regional cooperation on the local groups for which they are responsible.⁴⁵ The organisations would have to translate its contractual obligations to the State into consensual collective action and new social norms at the local level. To achieve this, the organisations would have to build capacity for self-governance at the local level. This might be in total or in part funded directly by the Commonwealth, building on the strengths of the Natural Heritage Trust.

This role for catchment management organisations is challenging one but not impossible, particularly if the catchment management organisations have adequate funding and autonomy. It does not imply any contraction of the role of the State resource management agencies. The reason for this is that the State resource management agencies are generally well endowed with regionally and locally relevant scientific expertise. There will continue to be strong demand for this expertise, although there will be a need to continue the emerging trend of putting scientific expertise in an advisory, but clearly subsidiary role, to those involved in collective resource management decisions. This role for the State agencies, external to the resource governance framework, complements that of the Commonwealth. The former provides knowledge building services, while the latter provides capacity building services. In both cases, there is not the need for close integration with catchment plans that is the case for programs bringing about landuse change.

Past experience of the high levels of trust that rural communities have developed for landcare facilitators and State agricultural extension staff suggests that the effective means of capacity and knowledge building — community development to use an old fashioned term — are already known, but currently out of favour due to funding shortages and/or deliberate policy decisions.

4.2.3 *Regional and local level*

The magnitude and difficulty of the task of translating regional contractual arrangements into culturally appropriate targets for local self-governance has already been referred to. This has been constantly underestimated in the efforts that have been made within an ICM framework to bring about voluntary landuse change. However, reviews of Land and Water Management Plans in New South Wales, and other resource management planning efforts over the last 15 years, do provide a reasonably consistent account of where the difficulties lie.⁴⁶

Wilkinson and Barr's (1993) study of salinity planning processes in Victoria in the late 1980s and early 1990s put forward two factors influencing the progress of planning efforts. The first was whether the solution required universal adoption (one in - all in) to be successful, or could be voluntarily adopted, such that effectiveness of the solution improved as more landholders adopted it. Experience in Victoria suggested that a one in - all in solution could result in a 'grand plan' (such as district drainage schemes), where most agreed on the need for the plan because of the obvious impending problems, but lacked the capacity to bring the plan to fruition.

However, the experience of the Murray Land and Water Management Plans, which had the potential to be 'grand plans', suggests two circuit breakers for the impasse of the 'grand plan'. The first is the external provision of generous financial incentives.

The second is the presence of a leader who can build trust and motivation to a level where individuals are prepared to 'take a chance' and trust that others will also invest in the necessary practice changes. If the solution has the potential to bring about significant increases in farm profitability, this will assist the task of leadership.

There are several additional factors that explain why emergence of self-governance might be more likely to occur in irrigation areas, and in southern irrigation areas in particular. Firstly, the ownership of water by the State provides a powerful lever in contractual arrangements in addition to that of financial incentives.

Secondly, because of the course of history and their experience with trusts and cooperatives, the southern irrigation districts have considerable social capital in the form of people's willingness to set aside the old frontier values of individualism and disrespect for authority, in favour of the civic values of trust, and cooperation, both among themselves and with authority.

It can be seen from this, that some environmental problems and some areas will be more susceptible to the emergence of self-governance than others. The endpoints of the spectrum are probably southern irrigation districts facing rising water tables (high susceptibility) and northern parts of Australia where property development and tree clearing is resulting in biodiversity loss (low susceptibility).

The second factor identified by Wilkinson and Barr was whether or not there was an obvious impending problem. This factor is becoming less influential with time as the evidence of major environmental problems affecting the productivity of agriculture grows. However, it still applies in some areas, such as natural biodiversity, where farmer interest groups acknowledge the problem but, secure in the knowledge it is unlikely to have a major impact on agricultural productivity, can argue they have no duty to do anything about it.

4.2.4 *The framework as a whole*

While it has been argued that inevitable values tensions exist in the resource governance framework as described, this is not to say that the values and approaches of administrative rationalism and pluralism at the State and Commonwealth levels have to be quarantined from communitarianism at the local level. Even if regional resource management organisations effectively fulfil the mediating role proposed, there will always be circumstances where there is a need to combine all three approaches. This is particularly so for natural resource management problems with inherent complexity and uncertainty, such as dryland salinity. In these circumstances there is a need for consecutive cycles of:

- scientific investigation and planning (administrative rationalism),
- raising community awareness of new understandings about the nature of the problem and appreciating their concerns (communitarianism), and
- articulating the nature of the interests of various stakeholder groups in the light of the new knowledge, awareness and concerns (pluralism).

If regional resource management organisations can become effective mediating organisations in the way outlined above, they will be well placed to support this adaptive resource management as it progresses through cycles of investigation, consultation and collective decisions.

5 Conclusions and Prospects

5.1 Introduction

As modern industrial societies grow in their complexity and demands for both resource access and environmental quality, governments face mounting difficulties in reconciling these demands. These difficulties are particularly great when it comes to the role of the state in managing the competing demands on what might be termed the utilised environment, i.e. that part of the landscape that is predominantly in some form of private ownership, but nonetheless is responsible for producing a wide range of public goods. Rural Australia faces a major challenge in maintaining the production of public goods such as environmental quality and urban water supply in a landscape, the settlement of which was built on individualism and absolutist notions of property rights. Added to this are the difficulties that Australia faces with its federal system of government, something that it shares with a number of other countries. Finally, Australia's most productive agricultural region, the Murray-Darling Basin, is spread across four States and the Australian Capital Territory.

As in other countries, Australia is evolving ways of adapting its federal system of government to the environmental and resource problems that found their way onto political agendas in the last three decades of the 20th century. After a period of adversarial relationships between the Commonwealth and the States, there has been a settling into what might be termed modern cooperative federalism, built around a Council of Australian Governments, Ministerial Councils and a willingness for governments to enter into agreements and contractual arrangements that clarify their roles.

At the same time, there has been evolutionary change in, and a growth in the diversity of, the kinds of policy

approaches favoured by governments in resource management. Notable among these has been increasing research and public awareness raising efforts, increasing public consultation and involvement, and increasing reliance on regional catchment planning activities as a means of attempting to resolve the conflicting demands on the environment and resources in rural areas. In the latter case, the concept of integrated catchment management has become pervasive. In contrast to the policy approaches that have become more popular, those relating to property rights and regulatory enforcement have experienced little change.

Given this background, resource management in the Murray-Darling Basin and elsewhere in Australia, inevitably involves multiple governments and interest groups — a state of affairs that is increasingly being referred to as resource governance. The question this paper discusses is whether there might be a way of bringing some overall structure to the multiplicity of governments and policy approaches — a resource governance framework. Because of the pervasiveness of the concept of integrated catchment management and its obvious claim to being the structuring principle of resource governance, it was first necessary to examine the validity of this claim.

5.2 The conclusions

5.1 ICM

It has been argued that a distinction can be drawn between ICM as an ideal and ICM as practice. There is no doubt that ICM-the-ideal is a sound policy goal that is essential to effective resource governance in the Basin.

However, ICM as practiced largely attempts to achieve the ideal via the 'visible hand' of bureaucracy. The two

‘invisible hands’ that are also capable of achieving integration — the market and local cooperative self-governance — have as yet received relatively little attention.

In addition, ICM-the-ideal is not without some contradictions, particularly with respect to its participative and empowerment aspirations and the growing emphasis on contractual arrangements and accountability. The gap between administrative rationalist and communitarian values remains an obstacle to the achievement of these aspirations. The ‘invisible hands’ of the market and self-governance embody a set of values that conform more closely to the communitarian values of rural Australia, than do the administrative rationalist values of the ‘visible hand’ of bureaucracy.

The key to effective natural resource management is the design of institutions that allow these ‘invisible hands’ to relieve ICM of some of the burdens of regulatory and bureaucratic control.

5.2.1 The keystone

The paper has argued that the COAG water reforms and the National Action Plan on Salinity and Water Quality are innovations in cooperative federalism that have much to offer as a model for the upper parts of a resource governance framework. Further, it has argued that there are good grounds for believing that, given the right conditions, many rural environmental problems at the regional levels could be solved by a nested hierarchy of self-governing organisations or groups. This seems most likely to emerge where there are generous financial incentives, leverage through important inputs to agriculture (such as irrigation water), local leadership, and social capital built on a history of cooperative endeavours.

A comprehensive resource governance framework can be envisaged. The upper levels are embedded within the

cooperative federalist institutions of Commonwealth leadership and commitment, and negotiated targets, financial incentives and contracts with the States. The lower level of the framework — its foundations — is a system of hierarchical nested self-governance built on trust and cooperation.

The keystones, or linchpins, in the whole framework — and this cannot be emphasised enough — are the regional resource management organisations. These have the extremely difficult task of translating their contractual obligations with State agencies into culturally appropriate and locally credible targets to guide the activities of local self-governing groups, and to trigger the flow of financial incentives to these groups.

The challenging nature of this task suggests that some experimentation with a greater diversity of regional resource management organisations would be justified in the future.

5.3.2 The wider context

Obviously, the building of a resource governance framework cannot occur in an institutional vacuum. The framework described above probably poses the greatest challenges for existing State ICM activities. However, it can readily accommodate much of the Commonwealth and State program effort in an unchanged or slightly changed form. This is because of the need for substantial and ongoing capacity building at the local level to support self-governing groups and organisations at this level. This capacity building, which includes both knowledge building and community development can generally occur independent of the environmental priorities being established by regional resource management organisations.

5.3 The prospects

Section 4.2 discussed a wide range of difficulties that a resource governance framework would face. The prospects for the framework depend on our ability to overcome these difficulties. In many cases, and for a single difficulty, the means of doing this is already known and being carried out somewhere in the Basin or elsewhere in Australia. The list below follows the order of section 4.2.

- Organisations with an interest in improving the quality of resource governance need to keep pressure on the Commonwealth government of the day to maintain its commitment to resource governance and its willingness to entertain the recommendations of the Ministerial Council.
- Movement towards a resource governance framework will need to be accompanied by a re-orientation of relevant NHT programs towards local capacity building.
- The emergence of highly capable, culturally appropriate and locally credible regional resource management organisations is the keystone in the whole resource governance framework. This will require flexibility in thinking on the part of the State agencies to let go of old ideas about ICM, devolve power to regional levels, and encourage a diversity of regional organisations. A major effort to support the building of mediating capacity in these organisations will be needed.
- The regional resource management organisations will require a stable funding environment insulated from the variabilities of State and Commonwealth political commitment. This stability could be structured around regional catchment strategies, annual investment plans and contractual

arrangements between the Commonwealth and individual States and regional natural resource management organisations. Catchment levies or rates may also play a role in achieving a stable funding environment.

- The effectiveness of the resource governance framework will be enhanced by the past and ongoing efforts of the State agencies to achieve clear separations between operational, regulatory and advisory roles.
- The prospects for the resource governance framework depend critically upon a transformation in dominant rural culture from the frontier values of individualism and disrespect for authority to the civic values of trust and cooperation needed for self-governance. As self-governance emerges, it will be possible for State governments to wind back previous regulatory instruments regarded in rural areas as excessively authoritarian
- This transformation will be assisted by locally credible community development and capacity building programs. These should aim to support rural communities in their search for, and experimentation with, self-governance institutions such as common property, markets, accreditation, cooperatives, trusts, and various local groups.
- The community development and capacity building programs will need to be shared between the Commonwealth, the States, inter-jurisdictional resource management organisations and the regional resource management organisations, so that broadly applicable programs are funded by the higher levels in the resource governance framework, and those relating specifically to landuse change are funded by the regional resource management organisations.

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¹ In the literature dealing with resource management and institutions, there tend to be two views of institutions. One is that institutions are constituted by the knowledge of individuals about social practices and norms (e.g. Scott, 1995). For example, the institution of the 'stag night' only persists because individuals know that a certain type of behaviour is expected. The other view of institutions is as rules by which individuals in a society order their behaviour (e.g. Bromley, 1990). The two views are not irreconcilable. Rather they simply place emphasis on different parts of the phenomenon of ordered social behaviour — one on the knowledge of individuals that results in behaviour consistent with norms or rules, and one on the norms and rules themselves.

² An example of this usage is: 'the functions of the Australian state are carried out by a number of governments, including the Commonwealth government (the most recent being the Howard Government) and the State governments'.

³ Sproule-Jones (1999) points out that resource governance is simply one example of what is known in some areas of public administration theory as horizontal management, and in others as network management.

⁴ The Progressivist concept of 'resource management' is actually a specific example of a broader set of concepts, also originating in the Progressive Era, that relate to government bureaucracies generally, and not just those concerned with the environment and natural resources. The term 'administrative rationalism' is used by Dryzek (1997) in this respect. The ideal of policy making by neutral and objective scientific elite that decides policy after a rational and comprehensive assessment, has been termed the rational-comprehensive model (see, for example, Fenna, 1998).

⁵ This Commonwealth organisation was established in 1989 in the wake of the Wesley Vale pulp mill proposal in an attempt take controversies over major developments out of the political arena and into a process of scientific assessment. The Resources Assessment Commission was disbanded by the Keating Government in the early 1990s.

⁶ A third and less common form of federalism is competitive federalism. In this case, State policies aim to give that State an advantage over other States in some area, such as attracting capital investment. It can be seen as a means by which States have incentives to adopt best management practice, such as efficient approvals procedures for developments. It can also be seen as favouring institutional diversity and experimentation amongst the States, so that worthwhile institutional innovations can be adopted by other States. On the down side, however, competitive federalism can also favour 'race to the bottom' situations in which States engage in bidding wars to attract capital investment by lowering environmental standards.

⁷ The description of the balance between centralised and decentralised responsibilities for USA and Netherlands is drawn from Wasserman (1996).

⁸ Broadly, the criteria relate to the State legal authority which will underpin the program, and the resources and personnel devoted to the program

⁹ Implementation included monitoring environmental quality and compliance, developing compliance strategies, targeting and performing inspections, enforcing against violators, and verifying the quality of monitoring and compliance data.

¹⁰ Identified shortcomings at the provincial and municipal level are addressed by the funding of technical assistance and training programs by the national government. To reduce the licensing burden at the municipal level, general regulations administered at the national level have been introduced for those firms where environmental impacts are minor and easily controlled, leaving firms with more significant impacts to be licensed and inspected by the municipalities.

¹¹ The positions of the different interest groups on the balance of environmental responsibilities between central and lower level governments is conveniently summarised in the Senate Environment, Communications, Information Technology and the Arts Committee's report from the Commonwealth Environment Powers Inquiry at:
http://www.aph.gov.au/senate/committee/ecita_ctte/enviropowers/contents.htm

¹² This is described in more detail in the companion overview report (Reeve, Frost, Musgrave and Stayner, 2001).

¹³ Dale and Bellamy (1998, Chapter 3) provide a more detailed account of the emergence of this distinction.

¹⁴ Conacher and Conacher (2000:284-286) and Bonyhady (2001), for example, document the winding back of public consultation provisions in the NSW Environmental Planning and Assessment Act of 1979 and the Victorian Planning and Environment Act of 1987. The trend in the actual numbers of people involved in participative activities is less clear. The 'Who Cares about the Environment' surveys undertaken by the New South Wales Environment Protection Authority in 1994, 1997 and 2000 showed that the proportion of people in New South Wales reporting that they had, in the last twelve months, 'Wr[itten] a letter or signed a petition or attended a meeting or made a report or complaint with the aim of improving the environment' remained constant at 36 per cent for all three surveys (NSW EPA, 2000).

¹⁵ The statement in June 2001 on Integrated Catchment Management in the Murray-Darling Basin 2001-2010 from the Murray-Darling Basin Commission is an example, with mention of 'hard decisions', and 'competition and conflict between the agricultural, urban and environmental sectors for the scarce water resources of the Basin'.

¹⁶ The historical reasons for the limited experimentation with the institutions of property in Australia lie outside the scope of this paper. Powell (1988) describes the Jeffersonian agrarian fundamentalism that underpinned the Closer Settlement Acts, while various aspects of rural absolutist perceptions of property rights are discussed by Fowler (1984), Bonyhady (1992), Holmes and Day (1995) and Reeve (2002).

¹⁷ Statutory covenants for nature conservation purposes were introduced in New South Wales in 1974, in Queensland in 1992, in Victoria in 1972 and South Australia in 1985 (Binning and Young, 1997). Legislative reforms to leasehold tenure have taken place in South Australia in 1989 and Queensland in 1994 (Holmes, 1999).

¹⁸ See, for example, Seal (1996).

¹⁹ Work on rural law enforcement (see, for example, Jobes, 1997) has identified two factors that are applicable to local State agency staff with enforcement responsibilities. Firstly, in many cases there is no separation between extension and enforcement roles. The agency staff member who launches a prosecution of a landholder is hardly likely to create the atmosphere of trust and respect needed if that person is to be an effective extension agent, particularly if, for the reasons outlined above, the unlawful activities of the person being prosecuted are rationalised and condoned by the community.

Secondly, field level staff inevitably become drawn into the social fabric of the rural communities in which they live. Prosecuting a landholder whose children are friends of the staff member's children, or who is a fellow member of a sporting club or church congregation places the staff member in a very difficult position socially.

To these two factors might be added a third. Effective extension requires a degree of empathy on the part of the extension agent with the values of clientele. As the extension agent becomes aware of these values, he or she may come to accept the same rationalisations by which the clientele condone transgressions of the norms of good land management. The endpoint in this process is, of course, agency capture and it has been argued that this has occurred in the mining, water resources and agricultural sectors in Australia (Clark, 1988).

²⁰ This was one of the tenets of the ‘new environmentalism’ of the Greiner Government in the early 1990s in New South Wales, and the principle has continued to be used since that time, such as in the COAG water reforms.

²¹ The problem of rural enforcement is not immune to technological change. For example, the introduction of automatic speed cameras in some countries has meant that the dislike for authority is transferred from the local police to a distant computer printing out infringement notices.

²² Among these were the flooding of Lake Pedder and the proposed Gordon below Franklin dam which played a pivotal role in the evolution of Federal-State relations in environmental policy.

²³ For more detail, see section 6.3.2 of the companion overview report (Reeve, et al., 2001).

²⁴ For more detail, see Crabb (1997:289).

²⁵ A full account of local government involvement in natural resource management is given by Hullick et al. (2001).

²⁶ The COAG water reform framework, adopted in February 1994, calls for pricing reform based on the principles of full cost recovery, and the removal of cross-subsidies. Remaining subsidies are to be made transparent. Second, jurisdictions are to adopt comprehensive systems of water allocation or entitlements, including allocations for the environment as a legitimate user. Water property rights are to be separated from land titles, so entitlements can be transferred between land title-holders. Third, there is to be structural separation of water service provision from water resource management, standard setting and regulatory enforcement. Fourth, two part tariffs are to be adopted for urban water systems when such an approach is cost-effective. Fifth, arrangements are to be introduced for trading in water systems or entitlements. Sixth, rural water charges are to recover all costs with transparent subsidies. Seventh, future investment in new irrigation projects or extension to existing works are to be undertaken only after they are demonstrated to be economically viable and ecologically sustainable.

²⁷ See, for example, the Proceedings of the National Workshop on Integrated Catchment Management held in 1988 and published by the Australian Water Resources Council in 1988.

²⁸ This power derives from Australian politics’ susceptibility to agrarian fundamentalist and absolutist property rights rhetoric. This susceptibility is in turn a consequence of the nation’s and the electorate’s ‘country mindedness’, i.e. the importance of pioneering and farming to our cultural heritage and national identity. Put simply, politics tends to be forgiving of national icons, whether they be misbehaving sports heroes, or farmers degrading the nations’ land resources.

²⁹ See, for example, Bellamy et al. (2002), and Dore (1999).

³⁰ This section and part of the subsequent one draws extensively on the work of Marshall (2001).

³¹ For a comprehensive review of this literature, see Marshall (2001). This view is not restricted to natural resource management. The growing literature on the concept of social capital draws attention to the role of trust in the ability of communities to adapt to changing economic circumstances. Some of this literature is discussed in Stayner and Reeve (2002).

³² Hardin argued that the structure of incentives among a group of herdsmen on a commons would inevitably lead to the degradation of the commons. This was because the benefit of increasing stock numbers was captured by the individual introducing the additional stock, while the costs of so doing were spread among all the herdsmen. In the literature that emerged in subsequent years on the tragedy of the commons, a distinction came to be drawn between open access resources and common property resources. The former has no system of social organisation limiting access to the resource, while the latter does have such a system. Hardin’s analysis was correct for the ‘tragedy of open access’, but not for common property resources. Unfortunately, Hardin’s analysis has been used improperly in resource management policy analysis to argue for the conversion of common property to private property.

³³ For a detailed discussion of tragedies of open access, see Reeve (1998).

³⁴ Neighbourhood watch committees and main street committees are examples of small scale self-governance that supplies elements of the public goods of security and main street amenity more efficiently and effectively that could be done by the state.

³⁵ For example, our trust when we deposit money in a bank is more directed to the probity of the bank and its financial management procedures, than to whether the particular bank teller we deal with is trustworthy. In a large bank in a city, we may never meet the same teller again. Trust in institutions involves many additional factors compared to trust among individuals. For example, the media can strongly influence the amount of trust people are prepared to place in the institutions of their society. Giddens (1991) argues that the conditions of modernity require an amazing amount of trust by individuals in the institutions that ensure the safety and predictability of their lives. For example, we all trust that the car will start in the morning, that the other drivers will stay on their side of the road, that the lift we ride to the office will arrive safely at the top floor, that the food we buy is not contaminated in some way and so on.

³⁶ At the risk of labouring the point, trust in governance refers to trust across the vertical dimension of the resource governance hierarchy, at any level. Trust in government refers to trust across the vertical dimension at the upper levels, where institutions are more important than social interaction.

³⁷ The following outline draws on Williams and Matheny's (1995) analysis of intractable policy disputes in waste management and Dryzek's (1997) typology of policy discourses in environmental politics and policy-making.

³⁸ Communitarianism should not be confused with communism. The former is an ideology that calls for greater emphasis upon the values of community within democratic processes (see, for example, Etzioni, 1998). The latter is an ideology that prefers that the means of production in an economy should be in the control of communes or collectives of workers, rather than in the control of those investing the capital, or their managers.

³⁹ It is worth noting here, for the purposes of the discussion in the next chapter, that as in the previous examples, landholders can appeal to both communitarian and pluralist values. This is an example of what Meinzen-Dick and Bruns (2000) have referred to in an irrigation context as 'forum shopping', i.e. water users facing changes in supply regimes may air their claims in a range of fora in an attempt to find the one that is most favourable to their interests. Different fora have different values as to what constitutes good argument.

⁴⁰ The Coleambally Irrigation Area elected to become a cooperative.

⁴¹ Taylor et al summarise the Land and Water Management Plans as follows:

Land and Water Management Plans were designed to effect the long-term sustainability of irrigation by improving irrigation management practices, addressing the harmful impacts created by the past management policies pertaining to irrigation and monitoring the impacts of the scheme. They also contain measures for environmental improvement and benchmarks for environmental performance. The plans were essentially a form of agreement between the government and the companies, and were acknowledged by landholder representatives. The companies had to use their constitution provisions and water supply agreements to ensure that landholders (who were responsible for on-farm measures) honoured the objectives in the plans

(Taylor et al 2001, p.12).

⁴² The irrigation areas involved are:

- the Murray schemes (four in all being implemented by Murray Irrigation Limited);
- Lower Murray (implemented by Western Murray Irrigation);
- Coleambally (including the Coleambally Outfall Drain);
- Murrumbidgee; and

- Jemalong.

⁴³ See, for example, House of Representatives Standing Committee on Environment and Heritage (2000) and the NHT Mid-Term Review by Fargher (1999).

⁴⁴ Agrarian fundamentalism has its origins in the views of Thomas Jefferson who believed a good and moral society was one composed mainly of yeoman farmers. The Jeffersonian vision underpinned much of Australia's closer settlements policies in the 19th century. Agrarian fundamentalism lives on in the views that farming is a morally superior occupation to other occupations, especially those in cities, that it is an inherited calling that can only be learnt by growing up on a farm, that agriculture is the economic foundation of the nation, and that the nation owes debt to agriculture for feeding and clothing it.

⁴⁵ The concerns expressed by Landcare groups in the late 1990s about the burden of paperwork were an example of bureaucratic institutions moving into a domain of collective-action where communitarian values predominate. This has discouraged landholders from becoming involved in landcare projects. In a national survey of rural landholders in 2000 (Reeve, 2001), 59.7 per cent of respondents agreed or strongly agreed with the statement 'With the amount of paperwork it takes to get government grants these days, it is hardly worth farmers' time to get involved in landcare projects.'

⁴⁶ Reviews of this experience include Wilkinson and Barr (1993), Fargher (1999), House of Representatives Standing Committee on Environment and Heritage (2000), Snowy Mountains Engineering Corporation (2001).