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Dryland salinity in Western Australia: A local government perspective

Paul Scalzi

Edith Cowan University
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Dryland Salinity in Western Australia:

A local government perspective

A thesis submitted by Paul Scalzi
Bachelor Arts (Geography) - Honours

Faculty of Community Services, Education & Social Sciences
USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.
This study evaluated local government's response to the problem of dryland salinity in the Western Australian Wheatbelt, and to what extent local government has the capacity to meet its statutory obligations. Salinity is a significant environmental problem that has the potential to have a marked effect on Western Australia's economy, environment and social fabric. The problem has been the focus of much Commonwealth and State attention, but the same level of involvement is not apparent in the institution of local government. This is also reflected in the paucity of published literature in the area of local government and salinity.

Local government is closest to the salinity problem and bares the brunt of the impacts at a local community level. This study identified what statutory role is available to local authorities, and whether or not local government is well positioned to take an active role in the resolution of this problem. Particular attention was given to the identification of any benefits that local government could contribute to the overall process, development of solutions, and how it could act as a conduit through which the implementation of solutions is achieved.

Local government was found to be well placed, and integral to the development of local strategies and responses to salinity. But, these initiatives need to be consistent with both Commonwealth and State strategies and policies. Developing such local strategies will serve to promote greater awareness of salinity issues and encourage broader participation within local communities. Participation, however, should not be restricted to those parties directly affected by salinity.

The Shires of Beverley and Corrigin served as case studies of how local authorities are addressing salinity in the landscape. Both Shires are located in the central Wheatbelt, and as local authorities have differing interests and priorities, which influence the manner in which salinity is addressed within these respective municipalities. Some difficulties that confronted these local authorities, effectively
Salinity and local government stalling their efforts at a local level, were highlighted. There is still more that can be done by local authorities in responding to the challenge presented by salinity. Particularly, the level of co-operation between local and state authorities could be further improved.

The results of this study may assist local authorities in develop strategies and responses to salinity in their respective regions. The results can also be used to facilitate improved relations between neighboring local authorities within a broader catchment and whole of landscape approach.

Author: Paul Scalzi
Principal Supervisor: Dr Hugo Bekle
Submission Date: December 2004
Declaration

I declare that this thesis does not, to the best of my knowledge and belief:

i. Incorporate without my acknowledgement any material previously submitted for a degree or diploma in any institution of higher education;

ii. Contain any material previously published or written by another person except where due reference is made in the text; or

iii. Contain any defamatory material.
Acknowledgements

I would like to acknowledge Edith Cowan University for providing me with the opportunity to undertake this Honours research, and in particular the ongoing support that is extended to students who are in full-time employment.

I am especially indebted to Dr Hugo Bekle, whose enthusiasm, encouragement and expertise ensured that this project was compiled with specific purpose and meaning.

I am also grateful for the contribution of the following individuals:
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- Natalie Moore, Liaison Officer, Office of Natural Resource Management.
- Bilal Akhar, former Works Supervisor at Shire of Beverley.
- Frank Brusie, Regional Environmental Health Officer.
- Judith Schilling, President Shire of Beverley.
- Nola Forbes, Deputy President Shire of Corrigin
- Bruce Mead, Chief Executive Officer Shire of Corrigin.
- Heather Blacklock, former Deputy CEO Shire of Corrigin.
- Terry Bush, Resident Merriden area.
- Dr Chris Berry, Manager Western Australian Local Government Grants Commission.
- Bruce Wittber, Policy Manager Governance, Western Australia Local Government Association.
- Stephen Coles, Director Capacity Building Department of Local Government and Regional Development.
- Harvey Morrell, Landcare Officer Brookton/Beverley area.
- Sarah Kearn, Edith Cowan University, Office of Higher degrees.

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1.1 Background

In 2000, it was estimated that 1.8 million hectares of agricultural land in the South-Western Australia was affected by dryland salinity. Such salinity is expected to become more widespread without effective intervention, resulting in an estimated 3 million hectares of salt-affected agricultural land by 2010 to 2015 (State Salinity Council, 2000, p10). In addition to such serious land degradation, the State Salinity Council emphasised that there are also serious economic and social costs. The threat to valuable public assets, such as biodiversity on public and private land, water supplies, road and rail infrastructure, is considerable. For example, 1,400 kilometres of highway and primary road, 13,200 kilometres of secondary and minor roads, 1,400 kilometres of railroad and 20 townsites are at risk in Western Australia (The Salinity Taskforce, 2001, p23). Even with immediate intervention, groundwater levels will continue to rise well into the future (State Salinity Council, 2000, p10).

The magnitude of the salinity crisis is persuasively portrayed in a recent book by Beresford (et. al., 2004) and his co-authors with the apt title The Salinity Crisis: Landscapes, Communities and Politics. Of course the Australian Constitution does not provide the Commonwealth Parliament with an explicit ‘environment’ power although it is able to exercise considerable influence upon environmental policy, particularly on the basis of its financial dominance (coverage of constitutional powers is examined later on Page 40). The present Commonwealth government has made funds available (subject to matching funds and other conditions) for the States to use in controlling salinity. States are required to develop strategies prior to applying for funding and are required to report on the effectiveness of these strategies (Commonwealth of Australia, 2000, p11).
Salinity and local government

Farmers have traditionally been cautious and less receptive to initiatives from State agencies, such as the Department of Agriculture (Beresford et al., 2004, p 129; The West Australian, 2003g, 2003h). Initiatives such as Landcare and the Rural Towns Program, are delivered and controlled by the same agencies. Although these initiatives have succeeded in improving the agricultural and natural landscape, it is generally agreed that such initiatives have failed in achieving a cooperative approach (Beresford et al., 2004, pp 28,36).

Local government in rural areas has a reputation for supporting its primary producers (C. Saunders, Narrogin farmer, pers. comm., October 19, 2004). This may be because they are well represented and able to participate in the decision making process at this level of government. Local government is closer to the community and landowners may be more receptive to initiatives, strategies and responses formulated by local representation (Graham, B. 1992, p12).

Local authorities have evolved in response to the agricultural pursuits in regional areas. An authority, as the name suggests, governs and administers the locality pursuant to its statutory obligations (Butterworths, 1997, p38; Gifford, 1967). More often than not, both the administrators and the elected members (councillor) have a direct relationship with the area, whether it is as landowners, farmers, commercial interests or residents (Brooke, 1990). These are the parties or stakeholders who have most to lose from salinity or gain by the effective management and control of salinity.

1.2 Significance of the study

Local government provides the closest link to those communities that are threatened by salinity. Both the Commonwealth and State governments are able to invest resources in other areas, but local government's proximity to the community and the problem place it well to act as a barometer for both the health and viability of its municipality (Heywood, A. 1997,p129). Therefore, local government would be best placed to be involved in developing strategies and
responses to dryland salinity within its community, as well as being involved with catchment-based management solutions (Commonwealth Office of Local Government, 1991).

The salinity problem has serious implications for local communities and their respective governing bodies in the short term, and particularly, in the long term with respect to future sustainable development (Brown, 1997). Local government is much closer to the problem of salinity than State or Commonwealth governments and is likely to be more directly affected by the environmental, social and economic consequences of salinity (Bell, 1992). Local government also appears to be largely excluded in the process of determining effective strategies and responses to salinity (State Salinity Council, 2000, J. Schilling, President Shire of Beverley, pers.comm., November, 2004).

There is a perception that local government in Australia needs to have a greater role in Natural Resource Management (Bell, 1992, p1) and economic development (Local Government Ministers Conference, 1986, p3). However, the obstacles confronted by local authorities include a real lack of capacity and resources (e.g. appropriately trained personnel, such as environmental officers) to take on more responsibilities (S. Coles, Director Capacity Building Department of Local Government, pers.comm., May 2002).

1.3 The research problem

The purpose of this study is to assess what is being achieved at a local government level, in terms of strategies and responses to salinity. It is also important to evaluate whether local authorities, which directly represent the stakeholders that are most affected by salinity, are in a better position to tackle the problem.

Local government is a tier of government and operates within the democratic framework of our legal system. As such it is responsible through the legislative
Salinity and local government

process to manage environmental issues within its boundaries (Town Planning and Development Act 1928, Western Australia, Local Government Act 1995). The research sought to highlight the strengths and weaknesses of current salinity action by local government in two selected case studies. A significant problem posed by the occurrence of dryland salinity is that it crosses shire boundaries, and therefore presents challenges for local authorities to tackle the issue on not only a local level, but also at a regional scale (Murray-Darling Basin Ministerial Council, 2000).

This study examined the hypothesis that local government is strategically placed to develop local salinity strategies, designed in response to the unique character and conditions of its own locality. Arising from this hypothesis are the following research questions:

- What is the local community expectation with respect to local governments involvement in dealing with dryland salinity within the municipality?

- What are the obstacles that hinder local government in addressing dryland salinity?

- What positive contribution can be made from local government involvement in addressing dryland salinity?

- Is there evidence that Integrated Catchment Management Plan (ICMP) or a whole of the landscape approach can better serve local authorities in terms of direction, information sharing and resource sharing?
CHAPTER 2 : METHODOLOGY AND RESEARCH TECHNIQUES

2.1 Introduction

The methodology and research techniques adopted in this study comprised a combination of: literary sources (Commonwealth and State Government reports on salinity management), legislation relevant to local government operations, and interviews with farmers, local officials and bureaucrats. These data sources were subjected to qualitative analysis.

2.2 Literary Sources

This study includes a review of literature from a variety of sources, including books (especially those offering academic commentary), scientific and academic journals, government reports and policy documents and technical reports. Attention was given to local governments involvement in the process of developing strategies and responses to the problem with a view of enhancing the capacity of local government in natural resource management. Ongoing research noted a paucity of literature of local government and salinity.

The literature can be classified according to the following content:


- The role of local government; where it is placed in the system of government; and how local government is formed and what function it serves (Heywood 1987; Brown, 1994; Arnold, 1989; Beresford et al, 2004).
Local and interstate examples of local government’s approach to natural resource management, and in particular, in salinity control (NSW Select Committee on Salinity, 2001; WA Select Committee on Salinity, 1988a; Select Committee on Salinity, 1988b Office of Local Government, 1991; National report on local government Murray-Darling Basin Ministerial Council, 2000)).

Evaluating the benefits of a ‘bottom-up’ approach to community involvement in environmental issues such as salinity (Chandler, Interview with the following landowners and farmers Saunders, Bush).

This study necessitated a survey of relevant statutes and legislation specific to salinity and the role of local government. In order to understand the role of local government, where it is placed in the system of politics, how it is formed and what functions it serves in relation to salinity, it is necessary to consider role in context with State and Commonwealth governments. The division of powers is determined by the following:

- Constitutions (Australian and Western Australian).
- Commonwealth legislation and policy (e.g. National Action Plan).
- State legislation and strategy (e.g. State Salinity Strategy, Local Government Act 1995; Constitution Act 1889).
- Local statutes and policy (e.g. Local Laws, Corrigin Town Planning Scheme; Beverley Town Planning Scheme).

This complexity in the range of responsibilities demonstrates that all tiers of government are stakeholders in the salinity problem. However, a possible explanation for the reluctance of local government to initiate responses is that as a tier of government its actions can be overridden by the State and Commonwealth Governments (Commonwealth of Australia Constitution Act 1900; Constitution Act 1889).
In considering what local authorities have done in response to salinity, it is necessary to identify not only local but also comparable examples of interstate local government approaches (Office of Local Government, 1991). This study revealed that legislation determining local governments statutory obligations vary amongst the States (Select Committee on Salinity, 2001). However, it was still proved possible to extract an insight into how individual authorities have responded to the challenge of an environmental problem.

2.3 Interviews

Semi-structured interview discussing the role local government has played in responding to the problem of salinity were used. These interviews were intended to establish the viewpoints of individuals and their local communities, and identify what local officials are doing in response to community initiatives on salinity. A range of opinions was sought primarily from two local authorities (eg their Chief Executive Officer, Landcare/environmental officers, Shire President and representatives from local Catchment Groups, as well as individual landholders and farmers. An important organization representing the position of all local governments in the State is the Western Australian Local Government Association. It is also affiliated with the national body, the Australia Local Government Association.

Interviews were also conducted with bureaucrats and representatives from State agencies: Department of Local Government and Regional Development, Agriculture WA, Department of Environmental Protection, State Salinity Council. These interviews reflected the position of the State Government.

Transcribed narratives from these interviews were analysed according to standard practice in qualitative research (Miles and Huberman 1994). Apart from the focus questions the interview provided the participant the opportunity to express their own opinions about the topic in an open style. A comparison between the two
case studies focused on how and why local government should be more involved with managing salinity.

2.4 Theoretical Framework

The underlying theoretical framework in this research is the sustainability of rural communities in the Wheatbelt of Western Australia (International Conventional on Sustainable Development). Salinity not only threatens the landscape but also the communities, industries, and governing bodies administering these areas. It is in the interests of local government to ensure the sustainability of natural resource. In neglecting the issue of salinity, local governments are faced with an unproductive landscape, the challenge of maintaining a viable rate base, population movements and the need to service salt-affected infrastructure. Any future salinity strategy needs to be developed within the framework of sustainable development within these rural communities (Brown, 1997).

Furthermore, in relation to community participation this research examined the benefits of a 'bottom up' approach to managing salinity. This approach is based on the assumption that local government is best qualified, through local representation to develop policy and determine local laws, which reflect a community's specific conditions and needs (Chandler, 1987). In the Salinity Strategy 2000 the importance of community participation and the role of community groups was recognized. As a consequence, the Western Australian Salinity Taskforce recommended in 2001 that governments needed to be more targeted, with cohesive community partnerships, as being part of the strategy (Salinity Taskforce, 2001).

2.5 Ethical Considerations

Ethics approval from Edith Cowan University was conditional on the observance of recognised ethical procedures for research interviewing. All interviewees were provided with a covering letter giving information about the research project and
advised that the study may be published as well as obligations towards the participant (i.e. voluntary participation, assurance of confidentiality and anonymity if requested). Name and telephone number identified the researcher and principle supervisor so interviewees could contact them to discuss any query. No incentives, monetary or otherwise, were offered to the interviewees.

2.6 Limitations

The study was limited by time constraints and resources, particularly for the interview schedule and its associated costs in time and travel to rural destinations. This constraint limited the number of individuals to be contacted for interview, and necessitated the use of a convenience sample of interviewees recruited on the basis of referrals and direct association with the salinity problem. Research work was also restricted to weekends and the researcher's periods of annual leave.

Due to the limitations imposed by time and resources, only two local shires could be surveyed. Limiting the study to only two local authorities gave a narrow insight into how local government in rural Western Australia is responding to salinity.
CHAPTER 3: STUDY AREA

3.1 Overview

Salinity in the Australian landscape is the result of conflict between agricultural and environmental issues. The Organisation for Economic Cooperation and Development (OECD) made reference to such matters, in *Agricultural and Economic Policies – Opportunities for Integration* 1989. It suggested that damage caused by agriculture and measures to minimise these affects, rely on the need to develop various policy alternatives to bring harmony where conflict exists. Australia's economic policies are largely the basis of agricultural development and subsequent degradation of the environment, which government is expected to counter with policies embellishing sustainable use of natural resources (Beresford et al, 2004).

3.2 Water in the Landscape

Australia is the second driest continent after Antarctica with an average annual rainfall of 469 mm, described as patchy and concentrated in the northern tropical regions (Gentilli, (Ed.) 1979). Only, 12 percent of the rainfall collects in the river basins with the remainder either evaporating, being used by vegetation, or draining into lakes, wetlands and aquifers (Commonwealth Government, 2001b). As water is an essential commodity in the development of sustainable communities, it is critical to store surface run-off in reservoirs. To this end, total annual usage of 82 percent is derived from the approximately 450 dams and the other 18 percent is drawn from groundwater reserves (Commonwealth Government, 2001b). Salinity poses a major threat to the quality of these water supplies and to the agricultural landscape as a whole.
The figure below is an aerial photograph of the Moora region, in the Wheatbelt of Western Australia, in flood. Flooding occurs because increasing groundwater reserves combine with seasonal rain, increasing the risk of saturating the landscape (Western Australian Government, March 2000, p19).

Figure 1: The Moore River in flood, 1999.


3.3 Salinity in the Landscape

In 2001, a national agricultural census on land affected by salinity and the use of salinity management practices reported:

- Just under 20,000 farms were reported by farmers as showing signs of salinity.
- Of the land showing signs of salinity, 800,000 hectares was unable to be used for agricultural production.
- Almost 30,000 farms had implemented salinity management practices.
- Non-irrigated farms accounted for 93% of agricultural land showing signs of salinity.
Western Australia is the State most affected by salinity.


Approximately 4 million acres of farmland are lost worldwide to excessive salt every year (International Food Policy Institute, 2000). By comparison, Australia has nearly 2.5 million hectares of land affected by salinity, with anywhere between 10 to 15 million hectares at risk (National Land and Water Resources Audit, 2001). Of the 2.5 million hectares affected nationally, Western Australia claims 1.8 million hectares of the total (Salinity Taskforce, 2001). Table 1 outlines Australia's asset at risk from salinity.

Table 1: Summary of Australia's assets in areas at high risk from shallow watertable or with high salinity hazard.

<table>
<thead>
<tr>
<th>Assets</th>
<th>2000</th>
<th>2020</th>
<th>2050</th>
</tr>
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<tbody>
<tr>
<td>Agricultural land (ha) 1</td>
<td>4,550,000</td>
<td>6,371,000</td>
<td>13,660,000</td>
</tr>
<tr>
<td>Remnant &amp; planted perennial vegetation (ha) 2,5</td>
<td>631,000</td>
<td>777,000</td>
<td>2,020,000</td>
</tr>
<tr>
<td>Roads (km) 2</td>
<td>19,900</td>
<td>26,600</td>
<td>67,400</td>
</tr>
<tr>
<td>Rail (km) 2</td>
<td>1,600</td>
<td>2,060</td>
<td>5,100</td>
</tr>
<tr>
<td>Stream length &amp; lake perimeter (km) 2</td>
<td>11,800</td>
<td>20,000</td>
<td>41,300</td>
</tr>
<tr>
<td>Towns (No) 3</td>
<td>68</td>
<td>125</td>
<td>219</td>
</tr>
<tr>
<td>Important wetlands (No) 1,4</td>
<td>80</td>
<td>81</td>
<td>130</td>
</tr>
</tbody>
</table>

1. Data from all states, Qld only for 2050.
2. Data from WA, SA, Vic and NSW, Qld only for 2050.
3. Data from WA, SA, Vic and NSW.
4. Including Ramsar wetlands.
5. Much of the remnant and perennial vegetation reported for each State occurs on agricultural lands.

Adapted from Australian Dry land Salinity Assessment 2000

Salinity is the term used to describe the salt content of soil and water. Excessive amounts of salt degrade land productivity and water quality (State Salinity Council, 2000). Soluble salts occur naturally in the environment but usually do not exist in concentrations that affect plant and animal life. Most of the salt originated from the
oceans, when either parts of the Australian landmass was submerged beneath the ocean or deposited from rain and wind (National Land and Water Resources Audit, 2001; National Action Plan for Salinity and Water Quality, 2000).

The increase in salinity in the landscape is related to the rise of underground water tables, which transport the soluble salts (State Salinity Strategy, 2000, National Action Plan for Salinity and Water Quality, 2000). There are two types of salinity, being irrigation and dryland salinity, affecting Australia’s landscape. Irrigation salinity occurs in areas where irrigated water adds to groundwater reserves causing the water table levels to rise with the soluble salts (Commonwealth of Australia, 2000). When the water levels recede the soluble salts crystallise on the surface and become concentrated as the landscape is permitted to saturate and dry with rising and receding water tables. Figure 2 shows the effect of landclearing on the landscape.

Figure 2

![Diagram showing the effect of landclearing on the landscape.](image)

In contrast, dryland salinity occurs when rising water tables transport soluble salts to the surface of the landscape (Commonwealth of Australia, 2000). The salt remains in the surface soil strata and becomes concentrated as water leaves the environment through evaporation or is drawn from the soil by plants. The main cause of dryland salinity is the removal of deep rooted plants, perennial trees,
natural shrubs and grasses, which are crucial in maintaining ground water levels, and their replacement by annual crops and pastures that use much less water (National Action Plan for Salinity and Water Quality, 2000; National Land and Water Resources Audit, 2001). Both types of salinity affect the natural and agricultural landscape, degrade infrastructure in the built environment, and in the process contaminate natural. Figure 2 highlights the problem of salinity in the rural landscape. The seriousness of salinity problem is reflected in the Commonwealth’s policy and commitment of substantial funds.

Figure 3 is an aerial photograph of salinity surfacing and the various landcare treatments being used in the South-Western rural landscape of Western Australian.

Range of landcare treatments being used at Morbinning farm Western Australia.
Source: Government of Western Australia, March 2000, page 1.
3.4 National Action Plan

The National Action Plan for Salinity and Water Quality is aimed at countering the major affects of salinity in Australia:

- More than $130 million of agricultural production is lost annually from salinity.
- More than $6 million is spent on building maintenance related to salinity in South Australia.
- $9 million damage done annually to roads in the south-western New South Wales by salinity.
- At least 2.5 million hectares (5% of cultivated land) is currently affected by salinity and this could rise to 12 million hectares (22%) based on increases to date.
- The area of salt affected land in Western Australia is increasing at a rate of one football field per hour.
- In 20 years time the salt content of Adelaide’s drinking water may exceed World Health Organisation standards for desirable drinking water two of every five days.
- Increasing salinity in Western Australia’s Wheatbelt could cause the extinction of some 450 species of native flora and some 250 species of invertebrate water fauna.

(Commonwealth of Australia, 2000)

The National Action Plan is an initiative by the Commonwealth Government, which recognizes the need for immediate action to tackle salinity and water quality problems in Australia (Commonwealth of Australia, 2001b). It is promoted under the banner of: ‘Australian governments and local communities working together to manage and improve salinity and water quality’. It focuses on efficiently and effectively managing Australia’s natural resources by motivating and enabling regional communities to meet the challenge. Australia’s natural resources earn up
Salinity and local government
to $25 billion dollars per annum in exports (Commonwealth of Australia, 2001). In an era of globalization and technical revolution, a nation is measured and rated according to its ability to manage itself and its environment. Projecting an image of effective environmental managers is critical to maintain the confidence of the international community in terms of treaties and trade relations (e.g. conventions relating to sustainable development), particularly as a recognised agricultural producer (Beresford et al, 2004, p75).

The strategy adopted by the Plan is to assess the current situation and set targets based on integrated catchment/regional management plans. It also emphasises the following objectives: to develop the capacity building of local communities; to improve the governance framework by clearly defining roles for each level of government (especially local government); and to support an ongoing public communication program. It outlines the necessity to consider various solutions to effectively managing salinity, whether an engineering solution or the development of alternative production systems attuned to Australian conditions (Commonwealth of Australia, 2001b, p5-11).

The Plan suggests that catchment/region planning is the most effect level to include the community in action against salinity. While this approach appears to overarch individual local government districts, there is still a stated commitment to the need for capacity building of local government. State and local governments are all expected to play a vital role in planning, capacity building and administrative support and ensure plans are established within the parameters agreed upon by the Commonwealth and the State (Commonwealth of Australia, 2001b, p9).

The Plan also recognises that reform of pricing, property rights and regulatory instruments for land and water is necessary for sustainability and profitability of resources. Measures such as compensation (e.g. for lost agricultural production as a consequence of conserving land for biodiversity protection) and adjustment assistance (e.g. rate and taxation relief) may be necessary to counter the impacts of any reforms (Commonwealth of Australia, 2001b, p9). In the Eastern States this
would involve reforming the ground and surface water allocations, while in Western Australia it would consider the issue of land clearing in salinity risk areas (Murray-Darling Basin Ministerial Council, 2000). Industry is included in the equation and the Plan outlines the merit of market based systems to ensure best practice environmental management systems, the development of tradable 'credits' would be based on a Trust allocation for landowners that meet outcomes (like reducing groundwater levels, tree planting and other activities) necessary for improving the sustainability and profitability of natural resources.

Table 2 indicates the funds the Commonwealth intends to make available to the States that are prepared to implement the Plan and match the financial contributions offered. Participating communities will also be expected to make appropriate contributions, which will likely be 'in-kind support' rather than a financial contribution (N. Moore, Liaison Officer for the Natural Resource Management Agency, pers.comm., November, 2004).

Much of the decision-making and responsibility rests with the Commonwealth and States. Local government's role is largely to support the regional bodies identified in the Plan. The Plan specifies the nature of local government's support:

- Community leaders, well placed to promote the integration of natural resource management.
- Existing local government infrastructure and administrative services offers local expertise, feedback and support and an authority base to facilitate the delivery of on ground action, regulation and incentive based programs.
- Local planning laws will form the basis of sustainable natural resource management.
- Local authorities are often significant land managers.

To consolidate the position identified for local government in the Plan, the Council of Australian Governments in April 2002 agreed to support arrangements that included adequate:

- Local government representation on regional bodies.
- Local government involvement in the development of integrated natural resource management regional plans.
- Awareness of regional objectives in local planning.

(Australian Government, ..., April 2002)

Table 2. Amounts allocated in the National Action Plan for Salinity and Water Management are outlined as follows (amounts are as at November 2000):

<table>
<thead>
<tr>
<th>State</th>
<th>$ Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>New South Wales</td>
<td>198</td>
</tr>
<tr>
<td>Victoria</td>
<td>152</td>
</tr>
<tr>
<td>Queensland</td>
<td>81</td>
</tr>
<tr>
<td>Western Australia</td>
<td>158</td>
</tr>
<tr>
<td>South Australia</td>
<td>33</td>
</tr>
<tr>
<td>Tasmania</td>
<td>12</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>700</strong></td>
</tr>
</tbody>
</table>

Adapted from National Action Plan

Western Australia signed a Bi-Lateral Agreement with the Commonwealth on 11 September 2003 for a proportion of the amount allocated, being $31.4 million (Natalie Moore, Liaison Officer for the Natural Resource Management Agency, pers.comm., November, 2004). Table 3 indicates the assets at risk from salinity in Western Australia. A further $16.6 million was given to Western Australia in September 2004 from the Natural Heritage Fund and National Action Plan for Salinity and Water Quality. The funds are earmarked for Natural Resource Management projects through the State and are divided between the regions outlined later in this study (Natural Resource Management Council, September Newsletter, p5). The remainder of the funds are pending official agreement between the Prime Minister and the Premier, which occurred in November 2004.
but has yet to be announced by the State (N. Moore, Liaison Officer for the Natural Resource Management Agency, pers.comm., November, 2004).

The Plan recognizes 5 priority regions in Western Australia. These regions are the:

1. Avon/Upper Swan
2. South-West
3. Northern Agricultural
4. South Coast
5. Ord

Table 3: Key assets at risk from dryland salinity in Western Australia.

<table>
<thead>
<tr>
<th>Assets</th>
<th>2000</th>
<th>2020</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural land (ha)</td>
<td>3,552,700</td>
<td>4,181,700</td>
<td>6,490,100</td>
</tr>
<tr>
<td>Perennial vegetation (ha)</td>
<td>600,000</td>
<td>710,000</td>
<td>1,800,000</td>
</tr>
<tr>
<td>Important wetlands (ha)</td>
<td>72,500</td>
<td>72,500</td>
<td>80,000</td>
</tr>
<tr>
<td>Highways (km)</td>
<td>720</td>
<td>840</td>
<td>1,500</td>
</tr>
<tr>
<td>Primary roads (km)</td>
<td>680</td>
<td>745</td>
<td>1,165</td>
</tr>
<tr>
<td>Secondary roads (km)</td>
<td>1,200</td>
<td>1,425</td>
<td>2,325</td>
</tr>
<tr>
<td>Minor roads (km)</td>
<td>11,550</td>
<td>13,650</td>
<td>22,930</td>
</tr>
<tr>
<td>Rail (km)</td>
<td>1,350</td>
<td>1,490</td>
<td>2,180</td>
</tr>
<tr>
<td>Stream length (km)</td>
<td>1,520</td>
<td>1,700</td>
<td>2,580</td>
</tr>
<tr>
<td>Towns (No)</td>
<td>20</td>
<td>22</td>
<td>29</td>
</tr>
<tr>
<td>Important wetlands (No)</td>
<td>21</td>
<td>21</td>
<td>21</td>
</tr>
</tbody>
</table>

Adapted from Australian Dryland Salinity Assessment 2000

All, but the Ord Region, are located in or around the Wheatbelt area of the State. The regional or catchment councils are similar in their representation of diverse interest groups and government agencies. However, local government representation is poor. The majority of individuals on these regional councils are from community groups and State Government agencies. For example, in a profile of the Avon Catchment Council membership (as of July 2002) it is noted that no local council representation existed. It was not the intention of this study to
analyse the make up of the regional councils set up under the National Action Plan. This apparent paucity of local government representation on these councils is however inconsistent with the April 2002 agreement of the Council of Australian Governments supporting local government's representation on these regional bodies.

3.5 Western Australia

In Western Australia salinity is caused by the replacement of perennial, deep-rooted native vegetation with annual crops and pastures. These crops and pastures use less water than the original native vegetation, and as a consequence the unused rainfall, either drains toward low-lying areas or percolates through the surface soil to become part of the underground water system (State Salinity Council, 2000, p15). The amount of water entering the groundwater systems is estimated to be over 5 billion kilolitres (Salinity – a situation statement for Western Australia). The result is that groundwater reserves in the Wheatbelt are expanding, and when the groundwater reaches the plant root zone it results in the death of the plants that are not salt tolerant. Therefore, the primary cause of salinity in the Wheatbelt is the under-use of annual rainfall and the large-scale ponding, or water-logging, that occurs because the underlying geology is relatively impermeable. It is estimated that the amount of salt stored below the surface varies between 300 tonnes per hectare in the uplands to 10,000 tonnes per hectare in saline valleys, with an overall average of around 2,000 tonnes of salt per hectare (State Salinity Council, 2000, p14-15).

W. E. Wood identified the association between salt and the clearing of agricultural land in Western Australia as early as 1924 (Beresford et al, 2004). There is little doubt in the scientific community about the relationship between salinity and land clearing, and it is agreed that if left unmanaged salinity has the potential of effecting large areas of Western Australia's South-Western agricultural areas (Government of Western Australia, 1996, p3-10). Tom Hatton, a CSIRO scientist, in describing the enormity of the problem suggested that if over half of the
Wheatbelt was restored to woodland the salinity spread may cease, but this may take several hundred years. Furthermore, the National Land and Water Resources Audit has identified up 8.8 million hectares at high risk of developing shallow saline watertables in Western Australia by 2050 (National Land and Water Resources Audit, 2001b). Figure 3 shows Western Australia’s Wheatbelt Region relative to the Australian Landmass and rainfall zones, and Figure 4 highlights the Western Australian Agricultural region.

Figure 4

Figure 4 Western Australia’s Wheatbelt Region relative to the Australian Landmass and rainfall zones. Source: Beresford et al, 2004, page 8.
The Wheatbelt in south-western portion of the State is the most salt-affected land. It covers a broad, diagonal band from north of Geraldton, on the mid-west coast, to well past Esperance on the south coast (Gentilli, Ed.), 1979). The Mediterranean climate produces rainfall of 750mm per annum along the Wheatbelt's western fringe decreasing to less than 300mm along the eastern fringe (refer Beresford et al, 2004, p8). The landscape is flat, gently undulating and cleared of 90 percent of the original native vegetation. This region covers an area of 30 million hectares and generates over $4 billion in cereal production per annum. Use of phosphates
and other elements found in chemical fertilisers, along with systematic crop and pasture rotation, have turned the Wheatbelt into a most productive agricultural area with well-established export markets (Beresford et al, 2004).

The economic value of the Wheatbelt extends beyond cereal production to a broad range of other significant industries, including livestock production, horticulture, tourism, aquaculture and mining (Wheatbelt Development Commission, 2003). However, salinity reduces the productivity of agricultural land and has wider ramifications associated with the environment, of economic and social spheres of the region. These include:

- Loss of biodiversity and natural amenity.
- Loss of water resources & increased flood risk.
- A reduction in land values as salinity encroaches onto the landscape.
- Maintenance of infrastructure, i.e. repairs to roads, buildings.
- Decline in economic.
- Population decline.

(State Salinity Council, 2000).

The Department of Land Administration’s Land Monitor Project identified 72 agricultural local governments effected by salinity, which is presented in Appendix C (2001, p13). Consequently, salinity is acknowledged as being the State’s greatest environmental problem (State of the Environment Report, 1998), and the Commonwealth Government also has recognised that this issue represents a major challenge for the future.

This research is centred on the local government municipalities of Beverley and Corrigin (see Figures 5 and 7). Both Shires are well established and geographically located within the central Wheatbelt. Corrigin is located in the heart of the agricultural region, while Beverley is on the western fringe and borders the Darling Range. Beverley also attracts hobby farmers, which necessitates the Shire to balance competing land use interests.
3.6 The State Salinity Strategy of Western Australia

The Government of Western Australia has directed the development of the Salinity Action Plan (1996) and its successor the State Salinity Strategy (2000). This task involved bodies such as the State Salinity Council (1996-2004) and the State Salinity Taskforce (2001). The Government also draws on the expertise and resources available in a number of relevant agencies, which are similarly working toward the treatment of salinity:

- Agriculture WA.
- Waters and Rivers Commission.
- Department of Land Administration (CALM).
- Environmental Protection Authority.

Unlike the Salinity Action Plan (1996) which was widely criticised for its lack of community consultation, the current State Salinity Strategy (2000) was prepared by the State Salinity Council in consultation with community groups and government agencies. At the time, Hendy Cowan MLA and then Deputy Premier; Chairman of the Cabinet Standing Committee on Salinity Management and the Natural Heritage Trust suggested that the new Salinity Strategy represented the community appropriately with the establishment of Regional Natural Resource Management Groups (State Salinity Council, 2000). These groups were considered as fundamental to ensuring that management strategies are developed by community groups in partnership with government agencies (State Salinity Council, 2000, iii).

The goals of the Strategy were outlined as follows:

- To reduce the rate of degradation of agricultural and public land and recover, rehabilitate or manage salt-affected land where practical.
Salinity and local government

- Ensuring salinity levels are maintained to protect and restore key water resources for the purpose of having safe, potable water supplies in perpetuity.
- To protect and restore high value wetlands and natural vegetation and maintain natural diversity within the region.
- To protect infrastructure affected by salinity.

The Strategy outlines three (3) principles to guide any action to achieve these goals. The first principle entails managing the cause of the problem (ie recharge and rising water tables). The second is to develop practical and environmentally sound methods that reduces the impact of salinity. The third principle is to present the Strategy as a partnership between all stakeholders, at the regional and catchment scale (State Salinity Council, 2000, p10-11).

A range of tools for managing salinity is presented in the Strategy. It emphasizes that each catchment area will need to employ a range of tools that are most appropriate for its particular geography (including soils, hydrology and landforms) and social/economic circumstances. These tools include and are not limited to:

- Reviewing alternative land management practices that include use of new alternative crops that maximize water use (ie deep rooted perennials), and phase farming techniques.
- Introducing deep-rooted perennial shrubs and trees, which use more water have longer growing seasons. In the case of commercial tree planting, like blue gum, maritime pine, oil mallee, it is estimated that 18 million hectares of cleared land will need to be covered by vegetation.
- Using saline land productively by introducing salt pasture, salt tolerant trees, aquaculture, and salt tolerant crops. Salt tolerant crops also include the potential use of genetically modified plants. Genetically modified grain crops offer a promising solution to salinity, but it should be noted that the farming community and markets as a whole respond to this concept with a certain degree of skepticism. Reasons for uncertainty include: the legal
implications associated with the patents of modified commercial grain, binding contract sales, and the unknown impact on the environment.

- Replanting and retaining native vegetation in order to protect the natural biodiversity.
- Engineered options such as surface water management (i.e. open drains, drainage banks and cultivation rows), deep drains, relief wells and siphons.

It was beyond the scope of this study to consider and evaluate these methods in detail, but rather outline the diverse range of available options. Notwithstanding these various solutions, it is necessary to emphasis that an effective strategy for managing salinity requires cooperation between all levels of government inclusive of community participation. The role of local government cannot be understated in a strategy of such State significance.

The State Salinity Strategy promotes a ‘partnership’ approach to addressing the problem of salinity and emphasises that it is a ‘shared investment’ (State Salinity Council, 2000, p54-55). This approach considers those who are direct beneficiaries (eg farmers who will gain from the exercise) and the indirect beneficiaries, such as the suppliers of farm machinery who will enjoy qualified benefits. Partnership is instrumental to the way the Commonwealth allocates funds for a National Landcare Program, the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality. Corporate funding has also been an important component in environmental management and is likely to develop with carbon credits and greenhouse emission trading, particularly with respect to tree plantations. Further funding is expected from the public in the form of landholder contribution, which to some degree may be matched by public funds, but more detailed consideration needs to be given to dealing with equity issues (State Salinity Council, 2000, p56).

Ultimately the Strategy is designed to develop the capacity of the local communities to source their own solutions and embrace changes necessary to succeed in the battle for controlling salinity in the Western Australian Wheatbelt. It
Salinity and local government does not outline local government's role in this mission, but does point out the importance of reflecting sustainable land use in local planning schemes (p 12; Beresford et al, 2004).

The report (State Salinity Council, 2000) reviewed salinity management in Western Australia. This report noted that local governments in Australia have been considering greater roles in natural resource management. However, those authorities located in rural Western Australia have insufficient capacity and resources to take on more responsibilities despite local government being 'the most accessible government face to the community' (p 64). The report also acknowledged two other important points. Firstly, that local government has provided strong support to farmer groups through direct assistance, and secondly, for local government to play a greater role in salinity management it will require the ability address regional issues. This does highlight the connection local government has with the community and its environment, but falls short of clearly defining local government’s role in salinity (2000, p 65).
CHAPTER 4 - LOCAL GOVERNMENT

4.1 Overview

Local government has evolved as an institution that responds to community needs and as such is well suited to broadening its role to areas, such as natural resource management (Chandler, 1993).

According to the Australian National University (1994, pp9-29) global and national pressures on environmental resources are making an impact on local management of economic and social capital. Local government is responding to the challenges of new roles, responsibilities and partnerships by adopting an innovative and responsive position, managing the change and regional issues with respect to sustainable development (Brown, 1997). The process of change is detailed and beyond the scope of this study, but it is necessary to note the changing face of local government. In particular, this chapter has sought to identify its position in the Australian system of government and to clearly define its role in natural resource management.

Chandler (1993) has surveyed local governments in a number of liberal democracies and noted the systems of government were uniquely different. However, one overriding commonality is that local government is regarded as an organisation representative of communal interest. He suggested that community is recognised by its relationships between people in defined areas who know about each other and share common interests; a loyalty to a locality. Local government is also sanctioned by legislation emanating from a superior unit of government. The structure, function and policy making process reflect the relationship with the State Government (1993). The central government is dominant and it is unlikely that local patriotism can overrule the head of power. Local government performs a valuable role in taking from the State many services and customising nationally determined policy frameworks to local circumstances.
Local government’s relationship with the community offers legitimacy to its involvement in environmental and economic matters. Chandler (1993) noted that local government offers a community in a defined area the ability to develop its own ideals and interests that support a local patriotism. It therefore operates with a degree of autonomy from the State. Local government performs a valuable role in taking many complex tasks from the government that would otherwise overload the State.

Chandler (1993, p188-199) also noted the 1981 Charter on Local Government drafted by the Council of Europe, which was endorsed by 13 Western European nations, the United States of America and Canada. In Chandler’s view, the Charter emphasised the value of local government as an essential element within a flourishing pluralist liberal democracy and ensures maximum participation for decision affecting the community. The Charter proclaimed that local government is primarily concerned in protecting:

...the existence of local authorities endowed with democratically constituted decision making bodies and possessing a wide degree of autonomy with regard to their responsibilities, the ways and means by which these responsibilities are exercised and the recourses required for their fulfilment.

(1993, p188-199)

Yok-shui F Lee (1997, p156) lent further credibility to the value of local government as a social institution by suggesting that in strengthening local government’s legal and institutional structures, and enhancing its capacity to generate local-level revenue source, it can significantly contribute to the economic, social and environmental development in the community. McGee (1997, p 40) similarly advocated that local authorities require a greater role in decision making in order to create sustainable societies. This will hinge on the ability of local communities to negotiate solutions for their locality. Local government should be organised to ensure authorities closest to the citizen exercise its responsibilities, thereby
ensuring maximum participation for decisions affecting the community (Galligan, 1995, p.205).

The size of the local government impacts on community participation. Byrnes and Dollery (2002, pp.391-414) suggested that any consideration toward amalgamating local governments in Australia must not only consider ‘equity’ issues but also ‘efficiency’ issues. Their analysis of the ‘bigger is better’ syndrome to public sector reform, particularly in local government, suggested that there is ‘considerable uncertainty’ as to whether economies of scales in local government services exist. They also concluded that there is little evidence that substantial efficiency gains result from creating larger local governments. Furthermore, concerns were noted of the loss of democratic representation and accountability through larger amalgamated councils. Moreover, Heywood (1997) supported the notion that well represented local governments are strategically placed to act as a barometer for the health and viability of its municipality.

Local governments around the world are realising that they have important roles in integrating sustainability into local communities (Brown, 1997). In order to satisfy the wants and needs of the constituents, however local government must be able to resource and finance projects. In relation to the environment, Bell (1992) suggested that local government in Australia should have a greater role in natural resource management (including salinity).

4.2 Australian Constitution

Responsible governance should be devolved to the maximum extent so that government is accessible and accountable for those affected by its decisions (Galligan, 1995, p.205). The Australian Constitution sets the legal framework for the system of government and matters relating to the environment. Constitutional responsibility for local government rests with the States and Territories and as a consequence there is a difference between the responsibilities and services provided by authorities in Australian States (Commonwealth of Australia, 2003, p
For example, services such as water supply and sewerage are the responsibility of local government in eastern Australia. Planning matters in the Northern Territory rest with the Territory and not the local governments. Similarly, local governments in other countries (e.g., United Kingdom) are responsible for health and educational services (Chandler, 1993). This demonstrates the range and value of local government as a social institution.

Australian has a federated system of government. Federalism is the rational sorting out of roles and responsibilities of all levels of government (Galligan, 1995, p.203). The *Commonwealth of Australia Constitution Act 1901* created a new federated country by combining the States of New South Wales, Victoria, Queensland, South Australia, Tasmania, and Western Australia (although the Act includes New Zealand as a state, New Zealand opted to exclude itself from the Australian Federation). In joining the Federation the States handed over certain powers to the Commonwealth Government, which are detailed in the Constitution. In respect to the environment, the Commonwealth may exercise constitutional powers under section 51 to enact legislation *Commonwealth of Australia Constitution Act 1900*. However, the Commonwealth has no specific power over the environment because the States have primary responsibility for environmental matters (Australia's Constitution, Time to Update, 1987).

Section 51 of the Constitution details five criteria where the Commonwealth can involve itself in environmental matters:

- **Section 51(i) Trade and commerce power** - The Commonwealth thwarted mining activities on Fraser Island because it refused to issue an export licence for the sand based on environmental reasons.
- **Section 51(xx) Corporations power** - The Commonwealth used this power, along with external affairs power, to thwart construction of the Franklin Dam by a Tasmanian Government corporation, which requires that a corporation is involved.
- **Section 51(xxix) External affairs powers** - International treaties or agreements on the preservation of the environment, to which Australia is a
signatory, provides sufficient scope for the Commonwealth to make laws where it is obligated. This was instrumental in blocking the construction of the Franklin Dam. Australia also signed into the *International Convention on Biological Diversity*, which prompted the Commonwealth to enact the *Environment Protection and Biodiversity Conservation Act 1999*.

- Section 51(xxxix) Incidental power and the national implied power – This allows the Commonwealth government to act appropriately as a national government.

(Australia's Constitution, Time to Update, 1987, p60)

The Constitution has been periodically reviewed with the objective of ensuring a relevant legal framework for Australia's system of federal government (Australia's Constitution, Time to Update, 1987, p60). In 1987 the Constitutional Commission was advised by two of its subordinate committees on the matter of extending the Commonwealth's environmental power. The Distribution of Powers Committee indicated in principle support for the Commonwealth to have some specific environmental power on matters of national interest. However, it did not recommend a specific power to make laws to protect the environment, based on concern that broad power over environmental matters would diminish the States' abilities to effectively manage land use, local and town planning matters. The Trade and National Economic Management Committee was split on the issue with a majority recommending against granting the Commonwealth with specific powers over the environment, and a minority in favour of granting the Commonwealth power over the conservation of natural resources (Australia's Constitution, Time to Update, 1987).

The Constitutional Commission was responsible for reporting on the revision of the Australian Constitution with respect to, amongst other matters, providing the most suitable framework for the economic, social and political development of Australia as a federation. It recognised an appropriate division of responsibilities between the Commonwealth, the States, self-governing Territories and local government.
The Commission then sought advice from the Advisory Committee on the Distribution of Powers, whose terms of reference considered:

- Expansion of Commonwealth Power.
- Contraction of Commonwealth Powers.
- Alteration of Exclusive Commonwealth Powers.
- General Limitations on Commonwealth and/or State Legislative Powers.
- Other Matters – including the Constitutional recognition of local government.

(Advisory Committee on the Distribution of Powers, 1987)

The significance of the latter, highlights the relative value attributed to local government as a legitimate tier of government in Australia (Yok-shui F Lee (1997). In particular, it demonstrates that local government has evolved from providing basic services into an institution synonymous with responsible administration and proper governance, which draws recognition as a genuine contender in Australia's system of government. In Western Australia, the 2002 Update of the Western Australian Constitution Act 1889 required that the Legislature shall maintain a system of local governing bodies with powers for better government of the area as the Legislature considers necessary (State Law Publishing, August 2002).

4.3 Local Government in Australia

Most recently, the Local Government National Report of 2002/2003 overlooked the problem of salinity, whereas, the equivalent 1999/2000 Report made specific and detailed comment on salinity's impact on local government. The then Federal Minister for Regional Services, Territories and Local Government, Wilson Tuckey, noted in his Foreword to the 1999/2000 Report that it recorded community action on a number of issues, including salinity. The Report suggested that salinity has three major impacts:
Salinity and local government

- it damages local government infrastructure, such as damage to roads, buildings, underground pipes and cables, sports fields, gardens and vegetation, failure of septic tanks and salinisation of local water supplies,
- it diminishes local government’s rate base through reductions in property values, which form the basis of determining the rates against properties,
- local governments in affected areas need to contribute to catchment/regional plans to minimize the effect of salinity, in the form of financial support, use of machinery or human resource contribution.

(p87-88)

The Report (1999-00, p87) noted that 5.7 million hectares of land were at risk from salinity, which in fifty years could increase to 17.1 million. In addition, the President of the Australian Local Government Association advised in Local Government Focus (8 August 2001) that 20,000 kilometres of roads are at risk from salinity. The Report also referred to the agreement in 1994 by the Council of Australian Governments to achieve efficient and sustainable water use by 2005. This agreement primarily considered the ecological aspects of water trading through a process of research, education, consultation and institutional reform. It was a commitment under the National Competition Policy that pricing reflected the actual cost of providing water.

This Report also detailed that all governments had recently agreed to a National Action Plan on Salinity and Water Quality based on $700 million funding from the Federal Government, which needs to be matched by the States and Territories. The basis of the plan is to provide catchment or regional bodies of 21 priority regions to develop an integrated catchment/regional natural resource development plan (refer to Appendix D). The intention is to detail a program that focuses on preventing, stabilising and reversing the effects of dryland salinity with respect to the natural and developed environment. According to the Report, the Federal Government has also placed $2 billion into the Natural Heritage Trust, for the
purpose of improving the management of Australia's biodiversity, land, water and marine resources.

4.4 Financial profile of local government

It is necessary to outline the limited income sources available to local government compared to the array of services it provides. As the Commonwealth is a major financier for local government it is also relevant to consider whether it has followed in its rhetoric about capacity building of local government for the purpose of taking on a greater role in natural resource management, especially salinity amelioration.

The level of taxation revenue for local government in Australia in 2002/03 was $5.7 billion or 3.1% of all taxation revenue inclusive of State and Federal government. The State governments total taxation revenue was $37.7 billion or 19.2% and the Commonwealth’s composite taxation revenue was $152.5 billion or 77.7%, respectively (Commonwealth Government, 2003).

The Federal Government redistributes some of the taxation revenue it receives to State and local governments in the form of tied funding through specific purpose grants relating to services, such as aged care, child care, services for people with disabilities, disaster relief and local road funding (Commonwealth Government, 2003, p17). It also provides funding through the Natural Heritage Trust and other programmes recognizing the importance of local government in reducing cost on local businesses and communities (p18). While important community services are recognised in this funding, there is no recognition of salinity and other environmental matters. State governments also provide funding for local government. Funds are for an array of services and contributions vary significantly between the States (Commonwealth Government, 2000, p18), but commonly there is little recognition given to environmental issues.

Commonwealth financial assistance grants also provide a significant source of revenue for local government across Australia. These funds are targeted at
developing local government's capacity across the nation, and particularly in rural or remote areas. They are offered in the form of local road funding and general purpose grants derived from the *Local Government (Financial Assistance) Act 1995* Cth. The object of the Act is to provide financial assistance to the States/Territories for the purpose of improving:

- The financial capacity of local governing bodies.
- The capacity of local governing bodies to provide their residents with an equitable level of services.
- The certainty of funding for local government bodies.
- The efficiency and effectiveness of local governing bodies.
- The provision by local governing bodies of services to Aboriginal and Torres Strait Islander communities.

The calculation of these grants to the States is based on a formula that is indexed against estimates of the Consumer Price Index (CPI) and population increases for the year. According to Dr Chris Berry, Manager of the Western Australian Local Government Grants Commission, Western Australia's unique geographic features do not specifically get considered in determining the grant allocations for the States and Territories (C. Berry, pers.comm., November 2004). Features such as:

- the difficulties in governing a large and isolated State is systematic with local authorities. Western Australia covers 2.5 million square kilometres (of the national 7.6 million square km) and is separated by two time zones from the populated eastern seaboard (Gentilli, (Ed.) 1979). Due to its vast size local government areas are equally large with the largest being the Shire of East Pilbara, which has the title of the largest local authority in liberal democracies.
- The size of the State necessitates an extensive road network to connect communities in Western Australia.
- The extensive coastline, which has implications for development, recreation, fisheries, tourism and coast-watch activities.
- The significant contribution made to the National Gross Domestic Product by exports from the agricultural products and mining industries.
- Salinity in the Wheatbelt.

The effective administration of local government is made more challenging in Western Australia. The sheer size of the State and equally large municipal areas offer challenges for local authorities to govern effectively, in comparison to other States. Similarly, the road network is considerable larger than the other States/Territories, as greater distances separate communities. Local governments are responsible for environmental management of its coast, and Western Australia boasts a substantial portion of the nation's coastline. The continued development of agricultural and mining industries in the State ensures that there is demand to provide the necessary infrastructure provided by local government. Dr Berry argues that these features place pressure on local government to effectively provide the essential services in comparison to those in other States/Territories.

The Commonwealth Financial Assistance Grants are provided on the basis of horizontal equalization, which is to ensure that every local government has the ability to function, by reasonable effort, at a standard not lower than the average standard of other local governments in the State (Local Government (Financial Assistance) Act 1995 Cth). It would not be unreasonable to expect consideration to be given to Western Australia's unique features and frame the allocation of grants against a criterion of fairer assessment of need rather than simply adjusted population and CPI.

Although faced with significant geographical difficulties (e.g. large area), Western Australian local government tax per capita is relatively lower than averages across other States (Commonwealth of Australia, 2003). This may be an indication that despite its size, extensive road network, and developing industries, Western Australia does provide efficient and effective local governance. But in fairness, local taxing in the Eastern States reflects that local government provides a greater range of services.
The range of services provided is even greater in Western Australia. In particular, the more remote local governments, such as Meekathara & Wiluna, are associated with providing services like electricity, water and housing, and aboriginal welfare, which are typically provided by the State (Government of Western Australian, 2003). In Western Australia local government also administers aerodromes (e.g. Karratha and Kalgoorlie), and in the Wheatbelt communities contributes to health services ranging from medical, nursing, dental & pharmaceutical (Shire of Beverley, 2003; Shire of Corrigin 2003).

4.5 Local government’s role in eastern Australian States

In 1990, the Commonwealth Government published, *The Role of Local Government in Salinity Control - A study carried out in irrigation areas of northern Victoria*, by the then Office of Local Government. The Report concluded that:

- Local governments had compelling social and economic reasons to become involved in a community-wide effort to combat salinity.
- Local government had no clearly define role or powers to maneuver in salinity issues.
- In terms of broad municipal powers, and subject to interpretation, acting relies mainly on the desire to.
- Based on interpretation, local governments have responded differently, either pro-actively or reactively depending on community expectation on salinity issues.
- Large Government departments and organizations providing valuable contributions in salinity issues complicate the role of local government, which has created the expectation that government is responsible for the battle against salinity.

(Office of Local Government, 1991)
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The study suggested a number of roles local government could assume on salinity-related issues:

- Dispute settling of on farm activities.
- Community surface drains and other drainage off-farms.
- Raising awareness and providing the public with information.
- Investigating, designing, financing and constructing drainage systems.

(Office of Local Government, 1991)

The Report also outlined a number of salinity-related activities that were subject to further investigation, or legislative amendment, before local government could assume responsibility:

- Land retirement or acquisition.
- Community water harvesting.
- Salinity control incentives.
- Differential rating.
- Cost sharing and recruiting specialist officers.

(Office of Local Government, 1991)

Efforts by individual councils would not resolve the problem with salinity and would require a consolidated effort. The Report criticised focusing solely on a 'bottom up' approach because it placed a reliance on government to act, whereas a 'top down' process would allow regional mechanisms to encourage greater participation and ownership of results. (Commonwealth Government, 1990, p70-74).

The Legislative Assembly of the Parliament of New South Wales established a Select Committee on Salinity in August 2000, which commissioned a report and toured other salt affected countries, such as India, Copenhagen, Netherlands and Brussels. The Terms of Reference accepted that local government is integral to resolving the problems caused by salinity:
• Business opportunities created by salinity that contribute to the improved management of groundwater recharge and discharge areas.
• The options of salinity management that are available to local councils, including but not limited to, planning instruments, building codes, urban water management plans, differential rating, development, development of local government expertise and resource sharing between councils.
• Any barriers to adoption of salinity management strategies by local authorities, and means to overcome these barriers.
• The adequacy of the Commonwealth’s response and contribution to addressing salinity.

(Select Committee on Salinity, 2001)

This treatment of local government’s approach to salinity in eastern Australia emphasises that efforts are being made to identify and define local governments role and responsibility in natural resource management (Craig, 1991). The following discussion will illustrate that this process is less well developed in western Australia.

4.6 Development of local government in Western Australia

The notion of local government in Western Australia began in 1838 in the form of a Towns Improvement Act, which authorised the setting up of Town and Country Trusts (Western Australian Government, 1981). The Perth Town Trust was created in 1838 and designed to collect tolls as a revenue base for the Trust. The sentiment at the time did not favour paying taxes so the Trusts met with moderate success.

In 1841 another Act was passed to create the General Roads Trust, which was responsible for establishing rural roads and associated infrastructure throughout the colony (Western Australian Government, 1981). There was no provision for levying rates as revenue was to be raised from tolls, loans fees, voluntary labour
and financial gifts. The Trust was ineffective, and in 1847 the Central Board of Works became responsible for the roadwork in the colony. The Town Trusts remained in force until 1850, when the legislation was revised and consolidated. These Trusts had limited powers, although the main failure of the Trusts was attributed to financial restraints (Phillips et al., 1998, p. 148). The Board was just as ineffective and the Governor of Western Australia assumed responsibility for roadworks and associated infrastructure from 1849 to 1871.

The Municipalities Act 1871 was the next stage in the development of local government in Western Australia, which empowered the Governor-in-Council to declare any town a municipality with accompanying authorization to define municipal boundaries (Western Australian Government, 1981). This legislation was noted for the increase in functions and powers afforded local authorities. These included the responsibility of licensing and regulating various activities, ranging from animal control, markets, to cart and carriage registration. Councils were empowered to enforce health requirements in terms of food hygiene and were allowed to develop places of interests, such as libraries, museums and gardens, albeit financing of these projects was subject to the Governor's approval (Western Australian Government, 1981).

The 1871 Act outlined the process authorities used to determine the amount required to satisfy its function and duties from rate assessments that were based on annual property valuations (This method of assessment is used by local governments in Western Australia today). The legislation replaced the Crown with locally elected roads boards with the primary responsibility of developing and maintaining the road network in specific areas. An element of this Act allowed local residents to undertake local works but local decisions and funding was overseen by the State, along with the supervision of works on major roads. In 1871, 21 Road Boards were formed and one of these was the Wheatbelt town of Beverley (Western Australian Government, 1981).
The discovery of valuable minerals in the goldfields toward the end of the 1890's brought a population that soon established local governance and brought the number of local governments in Western Australia to 47 (Western Australian Government, 1981). This number has steadily increased to 142 Western Australian local governments. The rise in the number of local authorities, from the beginning of the twentieth century until now, was marked by some minor developments to the legislation governing local authorities with a major review in the form of the Local Government Act 1960, which although was aimed at keeping tide with an evolving society was a prescriptive statute. The last major legislative review took the form of the Local Government Act 1995, which allowed authorities greater decision making and competence powers, previously requiring approval from a higher authority. This Act still allows local authorities to develop and gazette its own local laws.

Significantly, capping an authority's power base and shackling of its access to adequate funding appears systemic in the early stages of Western Australia's institutional development. It is a trait that seems to now be endemic of local government in this State. This is evidenced by attempts by the Shire of Augusta-Margaret River and Town of Port Hedland to raise funding for necessary municipal works in their respective areas. These attempts are finding resistance at a State level (The West Australian, 23 October 2004a).

Today local government in Western Australia is responsible for administering an array of statutes for matters including local health issues to planning matters enforceable through local town planning scheme (Town Planning and Development Act 1928).
4.7 Local government today

The notion of consolidating resources and co-operating between local government is drawn more from necessity, however in terms of environmental management the Local Government Minister's Working Group review into 'The Role of Local Government in Environmental Management' in 1991, outlined two basic proposals for reform:

- The development of a new set of intergovernmental relations based around a protocol between the different spheres of government;
- A local area planning and management approach be adopted, based on local government being responsible for environmental management in its own as well as broader areas in cooperation between councils and other spheres of government.

This set the strategy for local government's focus on environmental issues.

Rates revenue raised by local governments in Western Australia during 2001/02 was in the vicinity of $722 million, which was up from $629 million in 1999/00 (Government of Western Australia, 2003). For this reason, local government's role has expanded in recent decades. Although it is synonymous with rates, roads and rubbish, responsibilities now include town planning; community services, such as libraries, child care and recreational centers. However, in rural districts health services, such as immunization, nursing, medical and pharmaceutical services; and aerodromes are also provided (Government of Western Australia, 2003).

The 1995 Act acknowledged the added responsibilities and the nature of Western Australian local governments; being many in number, large in size and not well populated. The Act allows for local governments to consider and pursue an integrated approach to local and regional governance (Section 361 Act 1995). Steve Coles, Director Capacity Building at the Department of Local Government and Regional Development of Western Australia, explained that local government has been resource sharing for some time on an informal type arrangement between themselves in the interests of their respective communities (S. Coles,
pers.comm., 2003). He indicated that the Act does allow for formal regionalisation of services through agreements between local governments. However, he emphasised that local governments in the Wheatbelt region do not have the capacity to take on a significant role in managing salinity.

In another interview with Bruce Wittber, Policy Manager Governance at the Western Australian Local Government Association, confirmed that there is a trend toward regionalising local governments in a formal and less structured capacity, which allow local governments to share resources, regional co-ordination and, where appropriate, natural resource management (B. Wittber, pers.comm., November 2004). The formal method is outlined under the Act and allows bodies to be created under Section 361, which can act in all respects with the authority of a local government (S. Coles, pers.comm., 2003). These regional councils are primarily involved with waste management but have branched out into other areas. Two examples are:

- Eastern Metropolitan Regional Council (EMRC); member councils include the City’s of Swan, Belmont, Bayswater, Town of Bassendean, Shires of Kalamunda and Mundaring. EMRC provide of waste management, as well as providing research and information services to each member councils.
- Western Metropolitan Regional Councils (WMRC); member councils include the City of Subiaco, Towns of Claremont, Cottesloe, Mosman Park and Peppermint Grove. The City of Nedlands is not a member council but is a user of the services, which is responsible for waste management and waste transfer.

The less structured methods of regionalisation come in the form of Voluntary Regional Organisation Councils (VROC) and/or Regional Organisation Councils (ROC) (B. Wittber, pers.comm., November 2004). There are six VROC in Western Australia and the number is growing steadily, as this allows member councils voluntary status and flexibility of membership. There are nine ROC in Western Australia. Although each organisation’s primary role is waste management disposal, the North Eastern Wheatbelt Regional Organisation of Councils
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(NEWROC) did briefly consider natural resource management as part of its agenda.

This integrated approach is the beginnings of a consolidation of local governments, based on increasing the resources available to local governments and improving the quality of service provided (e.g. improve the financial position of local governments, improve the capacity to attract qualified and motivated professionals into the arena). Regionally focused organizations enable communities to be better positioned to tackle environmental problems, particularly that of salinity in the Wheatbelt (Brown, 1997; Brown, 1994).

It is noted that the pattern of local government amalgamations in most of the eastern states was not followed in Western Australia, however, in the lead up to the State election (expected in early 2005) both the Government and the Opposition have acknowledged that reform is necessary for local government (B. Wittber, pers.comm., November 2004). An interview with Dr Chris Berry confirmed that the present Government has attempted to encourage local governments to amalgamate. This policy was adopted by the Western Australian Local Government Grants Commission that allowed local governments to retain Commonwealth funding in the form of General Purpose Granting for a period of five years after amalgamation, which is considered a reasonable time to realise economies of scale (Dr C. Berry, pers.comm., November 2004). Although designed specifically as an incentive to amalgamate the separate municipalities of the Town of Narrogin and Shire of Narrogin; however, the policy has yet to achieve the desired result.

Regionalisation may be a necessary step for local governments in the Wheatbelt that are facing a number of challenges, apart from salinity:

- Depopulation attributed to a number of causes and has a direct effect on the rate base of local governments reducing its income.
- Technological advancements - in terms of farming simply means that machinery is replacing manual labour.
4.8 Summary

Local governments' increasing responsibilities can be attributed to the devolution of functions from both State and Commonwealth Governments, based on changing community expectations riding on a greater global reform agenda involving markets, economies and government (Beresford et al, 2004, p 57). Local government is now much more diverse and plays a greater role in the economic and social development, as well as environmental management of its local area (Commonwealth Government, 2000, p 8). However, local governments' role in resource management in Western Australia is not well defined. The State and its agencies consider that due to the nature and character of local authorities in Western Australia, local government is not well positioned to assume more than a participatory role in natural resource management (Brown, 1997). Despite this, the Commonwealth and numerous academics consider that local government is well placed to take an active role in environmental matters and will generally respond positively to challenges (Commonwealth of Australia, 2000; Brown, 1997; Chandler 993).

It is evident that local government is a valued and integral institution of government in Australia (Chandler, 1993; Murray-Darling Basin Ministerial Council, 2000). The fact that it is closer to the community and the problem of salinity, strongly suggests that local government should not be excluded in natural resource management in the Wheatbelt of Western Australia. The following chapter provides a more detailed discussion of the efforts of two separate local authorities to tackle the salinity problem.
CHAPTER 5: CASE STUDIES

5.1 Introduction

In its 2003 Annual Report, the Wheatbelt Development Commission noted that the Beverley-Brookton Groundwater Supply had significant quantities of groundwater, which presented opportunities as well as challenges to the Shires in the area. The groundwater could be used for agricultural, horticultural and residential development currently facing both districts (Wheatbelt Development Commission, 2003, p16). It realises that the problem has the potential to seriously effect the environment by rendering the agricultural land unusable, which will have economical and social consequences.

This chapter focuses primarily on two local governments in the central Wheatbelt, the Shires of Beverley and Corrigin. Both local authorities govern relatively large areas with modest populations. The geography of these Shires requires that, apart from providing an essential range of local services, financial or like (eg accommodation, motor vehicle) contribution is made to other services (i.e. medical, dental) for access by the community. Furthermore, the cost of transporting elected representatives to official meetings and functions is significantly more, in comparison to metropolitan councils, and is specific to rural and pastoral electorates. It is necessary, however to ensure the process of democratic representation is satisfied in both municipalities.

The purpose of these case studies is to identify what the local governments are doing about the problem of salinity. In addition, it is important to learn what services and facilities the local governments provide and what competing interests, if any, influence the decision making of these Councils. This study assumes that both of these local governments adopts responsible budgeting and auditing procedures, pursuant to the Local Government Act 1995. The Act requires that the activities and financial statements are independently audited and that annual
Salinity and local government reports are produced to detail activities, revenue and expenditure. Such reports are regularly reviewed by State agencies – including the Department of Local Government and Regional Development and Auditor General. Analysing the detailed revenue sources and expenditure of the local government activities could be part of another study.

As of 2000, the Shire of Beverley had 6,712 hectares of a total area of 237,120 hectares (2.83%) affected by salinity, although Beverley's total area includes a significant area of State forest along its western flank and that the percentage is actually much higher (DOLA Land Monitoring Project see Appendix C). At the same time the Shire of Corrigin had 13,098 hectares of a total area of 267,813 hectares (4.89%). Although significant figures, there are other local governments that have relatively greater proportions their respective areas affected by salinity.

To identify what the local councils are doing to combat salinity, the local governments were profiled to establish community viewpoint on environmental issues. In particular, and whether formal measures have been taken to control salinity, such as:

- Local laws – which can be created under the Local Government Act 1995,
- Town Planning Scheme – which has its head of power in the Town Planning and Development Act 1928,
- Specific actions (i.e. salinity works strategy).

Much of this information was obtained from interviews with the local officers and elected representatives.

5.2 Case Study 1: Corrigin

The first settlers arrived in Corrigin in the 1880's in search of natural pasture for livestock and gathering sandalwood (Western Australian Government, 1981). The district formalised a road board in 1913. Prior to this, the area was included with other road boards (Greenhills then Dangin).
Figure 6 Locality map of the Shire of Corrigin and surrounding local governments. Source: Department of Administration.
The Shire of Corrigin is two hours drive east of Perth in the central Wheatbelt. The Shire is located 234 kilometres east of Perth and governs an area of 3,095 square kilometres with a population of 1,276. About 2,570 square kilometres is used for agriculture (mainly wheat, oats and sheep), which forms the basis of the Shire’s economy along with service industries ranging from machinery dealerships, banking and agricultural supplies. The Shires of Quairading, Tammin, Kellerberrin, Kondinin, Kulin, Wickpin, Pingelly and Brookton surround it. The area enjoys a temperate climate with an average winter rainfall of 380 millimetres per annum with hot, dry summers (Gentilli, 1971).

The Town of Corrigin is the commercial and administrative centre and is linked to Narrogin and Merredin by rail for the cartage of grain (Shire of Beverley, 2003). The town has a population of about 750 and the only other settlement is Bullaring with a population of 25. Corrigin was known as the Town of Windmills because it relied on wind turbines to extract good quality ground water perched on top of bedrock beneath the town (H. Blacklock, former Deputy CEO Shire of Corrigin, pers.comm., 2004). The windmills have since gone but the label remains.

The Shire’s operating revenue is nearly $4.5 million with almost $1 million being raised by rates and employs 26 people. Commonwealth financial assistance grants funneled through the Western Australian Local Government Grants Commission make up 50% of the Shire’s General Purpose Funding (Shire of Corrigin, 2003). These grants assist the Shire to provide the community with access to a range of services and facilities at a reasonable cost. However, the Shire concedes that it cannot provide the same range of facilities as metropolitan local governments. What rural shires can provide is a more personalised approach to service provision (H. Blacklock, former Deputy CEO Shire of Corrigin, pers.comm., 2004). It does provide the core local government services, but also supports the medical, nursing and dental services by offering professional workplaces and residential accommodation. Corrigin also provides a frail aged hostel for its elderly.
Traditionally, the Shire has been considered a reliable farming area, but several years leading up to 2002 experienced low rainfall and agricultural production had suffered (H. Blacklock, former Deputy CEO Shire of Corrigin, pers.comm., 2004). In contrast, the last two years have delivered improved rainfall, which has restored agricultural production. Corrigin is considered a valuable agricultural area producing livestock, wool, cereal and legume crops. It has forged a reputation for producing excellent quality wheat and Merino wool by consistently winning awards in both categories (H. Blacklock, former Deputy CEO Shire of Corrigin, pers.comm., 2004).

Rural recession, restructuring of farm allotments into larger acreages and a tendency for youth to migrate to urban centres contribute to a declining population in the Shire, which has also been the trend in other rural communities throughout the Wheatbelt (Beresford et al, 2004). To counter the decline, the Shire has actively encouraged alternative sources of income from tourism, provided aged-health facilities, and made a concerted effort to provide an attractive town with land for residential and industrial development ((H. Blacklock, former Deputy CEO Shire of Corrigin, pers.comm., 2004).

The Shire has not developed any local laws or adopted salinity management practices in its Town Planning Scheme. Despite this, the problem of salinity is a serious concern for the community (B. Mead, Shire Chief Executive Officer, pers.comm., November 2004). The Shire has sunk a number of bores in the town of Corrigin, which is located over a reservoir of ground water. This water has been re-directed into irrigation for the town's recreational reserves and out to adjoining farms. The water is considered to be of suitable quality for irrigation in the town and the immediate farming district. This program has been successful in maintaining the level of ground water in the immediate locality reducing the long-term risk of damage from salinity B. Mead, Shire Chief Executive Officer, pers.comm., November 2004).
At the townsite of Bullaring, the Shire has introduced an open drainage system that directs groundwater out of the townsite and into natural watercourses (B. Mead, CEO, pers.comm., November 2004). Permission was obtained from the relevant State Government authorities for the Intention to Drain. This program appears to be maintaining groundwater levels and minimising the risk of salinity in the area.

The Shire convenes a Salinity Committee that consists of local councilors (past and present) and their administrative support (B. Mead, CEO, pers.comm., November 2004). The Committee has entered a monitoring phase and is assessing the results from the salinity control efforts in Corrigin and Bullaring. Recent discussions have focused on engineering solutions (e.g. deep and shallow drains). The Committee is keen to investigate and consider the broader issues associated with a regional assessment of salinity with other authorities. The Shire is engaged in discussions with local farmers and adjoining local governments: Quarading, Brookton and Beverley; to formulate an overall plan, designed to combat salinity based on a catchment program with the view of ensuring the sustainability of the environment for future generations (B. Mead, CEO, pers.comm., November 2004).

Local funding for salinity management is limited (N. Forbes, Deputy President Shire of Corrigin, pers.comm., November 2004). The Shire is faced with the prospect of increasing rates in order to fund the local battle against salinity. There has not been adequate assistance provided by other tiers of government. Rural shires are left with a sense of alienation and there is a suspicion that higher authorities do not realize the scale of the salinity problem in the Wheatbelt and the impact that this problem is having on local communities. Consequently, discussions with local government representatives and elected councilors revealed a lack of confidence in the State and Commonwealth Governments (B. Mead, pers.comm., November 2004; N. Forbes, Deputy President, pers.comm., November 2004).
This lack of confidence has been reflected in poor community support for the Landcare program, which funded treeplanting and other environmental remedies. The local program had already folded in early 2004, as a result of the lack of community support. Later in the year the Government withdrew funding all Landcare funding. Public confidence in the Government and its agencies was further eroded when the Shire discovered that the Office of the then Minister for Regional Services, Territories and Local Government, Wilson Tuckey, had misplaced an application for joint funding between Corrigin and other neighbouring shires. Nola Forbes, Deputy Shire President, described that 'the document was lost on the Minister's desk'. Despite this apparent oversight, Wilson Tuckey is on record as a strong advocate for managing salinity in the Wheatbelt (Commonwealth Government, 2000).

The Shire of Corrigin has demonstrated that it is aware of the seriousness of the salinity problem, but lacks the capacity to make a significant contribution to management. It suspects that the State Government has not enough to provide assistance to rural communities threatened by salinity (The West Australian, December 2001c, August 2003f). Too often, rural communities are left to source their own solutions.

5.3 Case Study 2: Beverley

The Town of Beverley was established in 1838 and named by the Colonial Surgeon at the time, Charles Simmons, after 'Beverley' in Yorkshire, England (Western Australian Government, 1981). It was one of the first districts to be settled in the Wheatbelt with pioneers arriving in 1831. The development of the area was stymied by the lack of experience, labour, and financial resources that made it difficult to effectively manage the local landscape (B. Akhtar, former Shire Works Supervisor, pers.comm., May 2004). Today, despite these early obstacles, the area has developed significant and varied agricultural interests. Figure 6 shows the Beverley landscape.
The Shire of Beverley is administered under the 'banner of progress by participation' (Shire of Beverley, 2003). It is located just under one and a half hours drive from Perth. Given its proximity to the outer Perth metropolitan area, Beverley is well positioned for the development of hobby farms. The Shire of Beverley is located in the central Wheatbelt region at the top of the Avon River and is approximately 132 kilometres east of Perth (refer locality map). It has a population of 1,616 and occupies an area of 2,310 square kilometres (Shire of Beverley, 2003). The town of Beverley is located on the banks of the Avon River and has a population of 850. It serves as an administrative centre for the Shire and boasts its historic links through the presence of many heritage buildings (B. Akhtar, Shire Works Supervisor, pers.comm., May 2004).

The City of Armadale, Shire of Quairading, York, Brookton and Wandaring bound the Shire. Farming occupies the eastern two thirds of the Shire, with the western third designated as mainly State forest and water catchment zone (B. Akhtar, Shire Works Supervisor, pers.comm., May 2004). This water catchment supplies the Avon River, which winds its way through the western Wheatbelt and empties into the Swan River. The Western half of the Shire is located over the Darling Ranges, which increases the cost of road construction. It is in this portion of the Shire that
rural lifestyle lots have been excised from larger land holdings; over sixty new dwellings have been constructed. The Shire’s industries include agriculture, aquaculture, light industry and tourism. Local agricultural products include wheat and other grains, sheep, olives, grapes, emus and ostriches (B. Akhtar, former Shire Works Supervisor, pers.comm., May 2004).

In the financial period 2001/02 the Shire’s actual Total Operating Revenue was $3,921,008 (Shire of Beverley, 2003). From this total amount, rates totaled just over $1 million dollars. Rates are levied in accordance with the Valuer General’s assessments and are determined on Gross Rental Value (GRV) at or Unimproved Value (UV). Rates made up a total of general-purpose revenue of $894,129. In the same period, the actual Total Operating Expenditure for the Shire was $3,229,335; of which $886,888 was allocated to gross salaries and wages (Shire of Beverley, 2003). These figures show that Beverley has the capacity to only raise about one third of its total expenditure from the present level of rates.
Figure 8 Locality map of Shire of Beverley and adjoining local governments. Source: DOLA
The Shire’s principal activities include:

- administration and governance of the locality;
- maintaining the transport network;
- fire prevention; animal control;
- health services including waste management to medical service contributions; maintaining municipal building stock; cultural development through recreational, tourism and community interest pursuits;
- environmental protection and landcare contributions;
- vehicle licencing and
- town planning controls.

(Shire of Beverley, 2003, p12)

On top of its core services the Shire also maintains the Beverley Airport, which is an old World War II airstrip, which is home to a gliding club and used by the Military’s Special Air Service (SAS) for training purposes (F. Bruise, Regional Environmental Health Officer, pers.comm., July 2004). It also subsidises medical and dental services for the community. To ensure a medical practitioner services the Shire, it provides the doctor with additional incentives, including a fully equipped surgery, residence and motor vehicle costing up to $40,000 per annum. Beverley spends about $3,000 per annum on the dental service (Shire of Beverley, 2002).

The Shire contributes to the management of two watercourses in the area (B. Akhtar, former Shire Works Supervisor, pers.comm., May 2004). The first is the Avon River, which flows along the Beverley townsite. It conducts maintenance works, such as stabilising the riverbanks and removing debris that travels with the winter rains. It contributes financially to the Avon River System Management Committee and expects that it will continue to play a role in the management of the
Beverley also manages the Yenyening Lakes System located to the southeast of the Beverley townsite (refer figure below). These lakes receive inflow from areas east of the lakes being in the Shires of Beverley, Brookton and Quairading. The water from these lakes finds its way into the northern branch of the Avon River at Qualandary Crossing, which is 39 kilometres upstream from the Beverley Townsite (F. Bruise, Regional Environmental Health Officer, pers.comm., July 2004). Early explorers in the area reported the lakes were highly saline. Considering the relatively fresh water of the Avon it has been suggested that the water from the Yenyening Lakes is from a different source (H. Aketar, Shire Works Supervisor, pers.comm., May 2004).

Figure 9 Yenyening Lakes


In 1928, the settlers in the area decided to construct a barrier at Qualandary in an attempt to prevent saline water entering the Avon River. The purpose of this
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barrier and others like it was to only allow the passage of water that was sufficiently mixed with fresh winter rain into the river, lessening the risk of contaminating the fresh water with saline water (H. Aketar, former Shire Works Supervisor, pers.comm., May 2004). The present causeway was built in 1965 and allowed water levels to increase for recreational purposes. Saline water does concentrate at lower levels and the causeway incorporates a culvert with a control gate that allows the release of this water. Although a working party established by the Government in 1983 oversees the management of the lakes, the Shire is responsible for the monitoring of the saline levels in the lakes and the maintenance of the barrier (H. Aketar, former Shire Works Supervisor, pers.comm., May 2004).

The Shire has not developed any local laws or adopted salinity management practices in its town-planning scheme. However, salinity is acknowledged by the Shire as a significant problem (J. Schilling, Shire President, pers.comm., November, 2004). Elected members and officials have attended study tours and participated in catchment groups relating to salinity management. The established Landcare program ceased to be funded by the Government this year.

The Shire is included in the Avon Catchment Council, which operates under the banner of 'plan as a catchment – work as individuals'. Judith Schilling, Shire President, suggested that this motto genuinely reflects the primary producer's ethos at work and in the community. This ethos is frustrated by a 'top down' approach being promoted by State and Commonwealth governments (J. Schilling, Shire President, pers.comm., November, 2004). Farmers are fiercely independent by nature, and often “don't take too kindly being told how to manage their own affairs” (J. Schilling, Shire President, pers.comm., November, 2004). Any salinity strategy will fail in its implementation without the support and active involvement of landholders. A ‘bottom up’ approach, focused on individuals assisting themselves, to develop strategies and solutions for salinity management is therefore more suited in natural resource management in the Wheatbelt (Office of Local Government, 1991).
Of particular concern is the apparent lack of co-ordination between the tiers of government that advocate natural resource management, more so at election times (J. Schilling, Shire President, pers.comm., November, 2004; F. Bruise, Regional Environmental Health Officer, pers.comm., July 2004). Similarly, government agencies involved do provide a co-ordinated approach to in environmental management and tend to protect their own research and information (J. Schilling, Shire President, pers.comm., November, 2004; C. Saunders, Narrogin Farmer, pers.comm., October 2004). Local communities sense that the State has focused on monitoring the rising water table, rather than finding effective solutions for reducing the water table. Judith Schilling acknowledged that current land and water use is not sustainable, but suggestions from the State Opposition to introduce ten desalinization plants across the Wheatbelt with the view of harvesting salt does not instill confidence in a hard working community. This solution appears to address the symptoms rather than the problem (J. Schilling, Shire President, pers.comm., November, 2004; C. Saunders, Narrogin Farmer, pers.comm., October 2004).

Of greater concern is the lack of funding for natural resource management, particularly salinity, "hitting the ground to where it is really needed" (J. Schilling, Shire President, pers.comm., November, 2004). Funding appears to be consumed by the bureaucratic processes of State Government in delivering the rhetoric rather than the solutions (Beresford et al, 2004). As funding for the Landcare program has ceased and the salinity problem continues to worsen, the immediate perception from the community is that funding to date has been wasted and the efforts inconclusive (J. Schilling, Shire President, pers.comm., November, 2004; C. Saunders, Narrogin Farmer, pers.comm., October 2004). The lack of consistent leadership and policy by the State Government is becoming an increasing worry and source of frustration for rural communities affected by salinity (J. Schilling, Shire President, pers.comm., November, 2004; C. Saunders, Narrogin Farmer, pers.comm., October 2004; T Bush, Merriden Resident, pers.comm., October 2004). Consequently, the Beverley community has developed a lack of confidence in higher government authorities, not only in environmental matters, but also in
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health and community related issues (The West Australian, November 27 2004). The result is that farmers and their local communities in the Wheatbelt will increasingly resolve to address their own problems (J. Schilling, Shire President, pers.comm., November, 2004; B. Mead, CEO Shire Corrigin, Pers.comm., November 2004). To this end, Beverley is now considering the feasibility of catching rainwater from the streets and storing the run-off for use in irrigation. This strategy primarily aims to reduce the amount of water entering the groundwater system as a means of reducing the regional water table (J. Schilling, Shire President, pers.comm., November, 2004).

Larger catchment scale projects are beyond the capacity of the Shire because it considers that allocating already scarce recourses to the salinity effort would compromise the effective governance of local services (H. Aketar, former Shire Works Supervisor, pers.comm., May 2004; The State Salinity Strategy, 2000). The Shire advocates that any effective treatment to the problem of rising ground water tables would be in a comprehensive sub-surface drainage program (Deep Drainage Task Force, 2000). Such measures are not considered viable, or effective, in isolation and therefore Beverley supports the design and implementation of a whole of catchment plan to tackle salinity (H. Aketar, former Shire Works Supervisor, pers.comm., May 2004; J. Schilling, Shire President, pers.comm., November, 2004).

5.4 Summary

The two case studies, comprising interviews with elected members and senior Shire administrators, showed that these local governments in the Wheatbelt felt isolated and frustrated by State Government’s ineffectual approach and leadership in the area of natural resource management. Of greater concern is the lack of confidence and suspicion associated with attempts to implement ‘top down’ solutions from bureaucrats and politicians far removed from the problem of salinity in the Wheatbelt. Local government, although stymied by limited resources, is persisting with modest salinity solutions at a local scale. Action at this level of
government is in response to community expectation, and emphasis on sustainable communities (Galligan, 1995, Brown, 1997)
CHAPTER 6: CONCLUSION

The capacity for generalising the findings of this research is limited by the small sample size of interviewees and the use of only two local authorities as case studies. The nature of the sample (elected members, shire administrators and several landholders) was also limited and a more representative sample would ideally include a greater number of individual landholders and local community members. Furthermore, this study was constrained by a paucity of literature of local government and salinity. However, despite these limitations the results of the interviews showed that considerable consensus existed in the views expressed by individual interviewees, and by interviewees from both Shires.

With such limitations in mind, the findings of this study supported the hypothesis that local government is strategically placed to develop local salinity strategies, designed in response to the unique character and conditions of its own locality. Wheatbelt local governments offer the closest relationship with the rural community (Heywood, 1993). Democratic representation is also the most effective at this level of government (Galligan, 1995). Adequate representation ensures community satisfaction, legitimising and significantly increasing the success of natural resource planning and management (Graham, 1992).

Five research questions were identified in this study, the first of which explored local community expectation in regard to local governments involvement in dealing with dryland salinity within the municipality? The majority of interviewees (especially C. Saunders and T. Bush) acknowledged that there has been significant research into the cause and effect of dryland salinity in the landscape. Conversely, rural communities have been exposed to rhetoric and promises concerning salinity solutions but inadequate action has resulted (The West Australian, December 29, 2001c; May 17, 2002a; August 9 20031). Within rural communities, this has caused frustration and a sense of isolation from the State and its agencies that have not delivered the expected leadership and coordinated
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In the absence of effective leadership from higher authorities, communities are left to their own devices to resolve their own issues (B. Mead, CEO Shire Corrigin, J. Schilling, President Shire of Beverley, . Farmers are independent by nature and have advocated for tax breaks or rate relief. Empowering individual landholders to take their own action would increase the likelihood of broader community participation and underpin a more effective strategy toward managing the problem of salinity (T. Bush, South-West rural land-owner, pers.comm., October 2004, C. Saunders, November 2004, C. Saunders, pers.comm., November 2004).

Such views have been conveyed via local authorities to the State and its agencies. Regrettably, this message has been lost and the response from the State has been largely a 'top down' strategy to managing salinity in the Wheatbelt (State Salinity Strategy, 2000, p19). This study found that local governments were active in responding to community expectations on salinity issues (Parker, 1987; Brown, 1994; Brooke, 1990, Select Committee on Salinity, 2001). This can be demonstrated through:

- The involvement of Shire representatives in salinity study tours.
- Their participation in the activities of landcare groups and catchment councils.
- The Shire commissioning feasibility studies on how to best manage salinity in their locality.
- The Shire initiating its own modest salinity projects to effect positive change in the local environment.

Communities have a reasonable expectation that local government will be representing local views; and as a consequence, action rather than rhetoric is the expected result (Murray-Darling Basin Ministerial Council, 2000).
This study revealed that the Shires of Corrigin and Beverley are under-resourced and do not have the capacity to undertake major projects to manage salinity in the local landscape (The State Salinity Strategy, 2000). However, efforts to date demonstrate that local government is well placed to assume an active role in natural resource management, rather than acting as a spectator or having a minor role in monitoring the problem (Murray-Darling Basin Ministerial Council, 2000; Commonwealth of Australia, 2000). Local government by virtue of its closeness to the salinity problem should be regarded as a primary stakeholder. Rural communities have an expectation that their local authorities are in a position to effect change, whether it be on a limited scale (Bell, 1992).

The second research question addressed the obstacles that hinder local government in addressing dryland salinity? The main obstacle facing local government is that higher authorities need to act more decisively in regard to implementing salinity solutions (Galligan, 1995). The problem has potential to impact on the nation's economic wealth and possibly damage Australia's image of an agricultural producer, operating in accordance to internationally accepted principles of sustainability, and an effective environmental manager (Commonwealth of Australia, 2000).

Action may be hindered by political considerations (The West Australian, December 29, 2001c; August 9, 2003f). For example, politicians may be reluctant to associate themselves with environmental problems, such as salinity, because they deliver bad news to the electorate. Furthermore, rural electorates are also divided in opinion as to the most effective salinity solution (Beresford et al, 2004; Select Committee on Salinity, 1988b). Much debate has resulted from the opposing views of people advocating tree planting and those individuals (mostly farmers) in favour of engineering solutions, such as drainage works (The West Australian, August 1, 2001a; Beresford et al, 2004; Select Committee on Salinity, 1988b). With most of the State's population concentrated in the Perth Metropolitan area, politicians and governments may also be reluctant to invest heavily in rural communities where the electoral benefits are relatively modest.
The next obstacle is that local government is placed beneath the Commonwealth and the State, and is hamstrung by higher authority and their associated funding (Constitution Act 1889, Western Australia, Local Government Act 1995). The Commonwealth has offered funding associated with the Natural Heritage Trust and National Action Plan for Salinity and Water Quality, and along with the States and Territories, is embarking on a campaign to address Australia's greatest environmental challenge (Commonwealth of Australia Constitution Act 1900, Commonwealth, section 51 implied responsibility). The strategy is to include all levels of government and work at a regional or catchment level, which is considered to be the most effective in reaching the problem (Commonwealth of Australia, 2000).

The State Government negotiates competing interests and priorities, and as such salinity is measured against other environmental issues, social and economic matters (Constitution Act 1889, Western Australia). However, the perception of leaders in local rural communities is that the State Government has not done enough with respect to natural resource management, particularly salinity (B. Mead, CEO Shire of Corrigin, J. Schilling, President Shire of Beverley). Criticism is directed at the Government's lack of leadership on environmental matters and failure to deliver a co-ordinated approach in the battle against salinity (C. Saunders, Generation Farmer; T Bush, Merriden Resident). When political attention focuses on the environment and problems, such as salinity, it is usually at election times, when proposals are circulated in the media without the support of local communities. Unfortunately, adequate consultation and agreement with stakeholders in the rural communities most affected by salinity does not always form part of the Government response.

The State's perception of local government's limited capacity to play an active role in natural resource management is another obstacle. Such a position is contrary to developments in the eastern States where local governments are recognised as having a valuable role in integrated catchment management (Murray-Darling Basin
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Ministerial Council, 2000; Office of Local Government, 1991). Although valued and specifically included at a Commonwealth level, local government in the Wheatbelt is not considered by the State as being capable of taking an active role in salinity management (The State Salinity Strategy, 2000; Commonwealth of Australia, 2000). The interview with Steve Coles in particular, supported the State viewpoint that local governments are predominately focused on developing roads to ensure producers can transport stock to markets and are under resourced to consider any serious role in managing environmental problems on a local or regional scale (The State Salinity Strategy). He further suggested that local government could assist State initiatives, such as landcare works, by contributing to vehicles, office and salaries, rather than direct the process.

Another obstacle faced by local government is that it does not enjoy Constitutional recognition (Commonwealth of Australia Constitution Act 1900, Commonwealth; Constitution Act 1889, Western Australia). Being a creation of the State limits local government's power and ability to act in its own right. Recognition in the Australian Constitution would not necessarily change matters for local government and its ability to function more effectively as an environmental manager (S. Coles, pers comm., 2003). In fact, local government should remain a creation of the State to ensure a direct and deliberate separation of powers, avoiding duplication in bureaucracy.

In any case, it would seem that on the balance that local governments are too small, under-resourced ill-equipped to assume a significant role in salinity management in the Wheatbelt. Local authorities have insufficient resources and expertise, and are shackled by a limited rate base (Local Government Act 1995).

By not being represented on the recently formed Catchment Councils, local government can only claim to have token representation in the natural resource management, and therefore it has little opportunity to impart community views and expectations in salinity matters (Brooke, 1990). Irrespective of this position, the Commonwealth has identified that local government plays an important part in
environmental management, and despite the best efforts of WALGA advocating local government's values, local government does not have a clear role in the process (Commonwealth Government, 2001).

The third research question dealt with the contributions and the positive outcomes of local government involvement in addressing dryland salinity? This study has identified that local government in the Wheatbelt is well placed to tackle the salinity problem:

- It maintains a close connection with the environment and the community.
- It is more empathetic to local issues.
- Enjoys the confidence of those it represents.
- Is relatively flexible and responsive.
- Is willing to take on a greater role in natural resource management.


Moreover, local government can use its position in the local community and with higher authorities to educate and relay information in either direction. Local government’s position ensures that it is well placed and integral to the development of local strategies and responses to dryland salinity (Murray-Darling Basin Ministerial Council, 2000). Developing such local strategies will serve to promote greater awareness of the salinity issues and encourage broader participation within local communities, as well as add legitimacy to the overall process (Galligan, 1995). In a climate of frustration and suspicion surrounding the State’s salinity strategy, the rural communities and landowners may be more receptive to initiatives, strategies and responses formulated by local representation (Brown, 1997).

Benefits from a ‘bottom up’ approach would facilitate improved relations amongst local governments and the State. In contrast, the Commonwealth and State governments advocate a ‘top down’ approach as being better suited to the management of environmental problems, because it is designed at involving
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regional/catchment representation (Commonwealth of Australia, 2000; The State Salinity Strategy, 2000). This viewpoint, however, fails to recognise that the rural community is fiercely independent by nature, and should farmers not agree with proposed solutions developed by the higher authorities, then the plan risks failure. Failure of any plans to manage salinity will further erode public confidence in the State’s ability to manage natural resources.

The Commonwealth has sent a clear message that local government has an important role in managing salinity (Commonwealth of Australia, 2000). In particular, the Eastern States have made substantial efforts to identify local government’s role in salinity management, and also how to develop local government’s capacity to take an active role in natural resource management (Select Committee on Salinity, 2001).

The final research question considered whether there is evidence that integrated catchment management (IMP), or a whole-of-the-landscape approach, can better serve local authorities in terms of direction, information sharing and resource sharing? At a national level, the Commonwealth and the Council of Australian Governments has supported the involvement of local government in the make up of regional/catchment councils. These councils are responsible for developing natural resource management plans. In Western Australia however local governments are excluded (The State Salinity Strategy, 2000). The current Salinity Strategy is based on the format of the National Action Plan and operates under a structure of regional catchment councils developing plans to effectively manage salinity. Such plans need extensive consultation and agreement with local communities, or risk being ineffectual through subsequent lack of participation; as has been demonstrated in other programs (i.e. Landcare program in Corrigin). Local government is well placed to contribute to the development of these plans by relaying community views and expectations (Heywood, 1997).
Presently, local governments are able to consolidate resources, under formal and informal arrangements, with the view of sharing these resources with neighbouring shires to better tackle salinity at a regional level (Local Government Act 1995). In Western Australia, regionalisation of local governments is expected to enhance the voice of local government in natural resource management (including salinity). The inevitable review of structural reform of local government should certainly consider local government’s role in environmental matters. Any restructure of local governments will need to be measured against the loss of democratic representation and accountability as larger amalgamated councils are formed (Byrnes, J., Dollery, B., 2002; Galligan, B. (1995). To sustain an argument for amalgamation not only the issue of equity needs to be considered, but efficiency levels also need to be improved.

An example of all tiers of government cooperating and working together to ameliorate salinity is provided in the local community of Merridin (Shire of Merridin, 2003). Local government is cooperating with Agriculture WA and the Water Corporation in a project that entails drilling bores into the saline watertable and drawing 100 kilolitres per day, then directing it to two hectares of evaporation ponds located about 4 kilometres west of the town. A desalination plant, adjacent to the evaporation ponds, uses 10 percent of the supply to produce potable water, which will supplement the town’s supply. The project is promoted as having the double benefits of reducing the salinity risk by lowering the watertable and also providing a potable water supply for use by the town.

The results of this study identified that local government in rural Western Australia is strategically well placed to take an active role in natural resource management but is limited by its power and rate base. The case studies in the Shires of Beverley and Corrigin have demonstrated that these communities are task orientated and prepared to consider and affect solutions for the salinity problem. There is willingness in local government to take on greater responsibility and more of an active role in natural resource management (Brown, 1997; Graham, 1992). Future related research could consider how to build local government’s capacity to
Salinity and local government take a greater role and responsibility in environmental management (i.e. institutional and legislative reform). Such a study would benefit from a greater range of case studies in the Wheatbelt, but also throughout Australia and other like, liberal democracies responding to environmental problems, such as salinity.

Throughout this thesis a number of geographical and political concepts guided the work. For convenience they are briefly listed below. Some repetition may occur.

Ten guiding principles

1. The Wheatbelt of southwestern Australia is a geographically diverse region in terms of landuse, geology, soils, and rainfall patterns. It provides one of the worst examples of dryland salinity in the world. Dryland salinity occurs when rising water tables transport soluble salts to the surface of the landscape, and is mainly caused by the removal of deep rooted plants, which have been replaced by annual crops and pastures that use much less water. It is a multi-dimensional problem that has environmental, social, economic and political implications. Salinity concerns all levels of governments, including local government.

2. At the time of writing local government was perceived as having a relatively minor role in salinity management, compared with the substantial contributions made by the State government and the Commonwealth of Australia. However, local government is a valued and integral institution of government in Australia, and its proximity to the community and the landscape that is affected by salinity ensures that it is well positioned to be an active player in natural resource management in the Wheatbelt.

3. Consideration of the historical background of local government, particularly in Western Australia, reveals that the institution of local government has evolved by assuming greater responsibility, by virtue of its disposition for
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direct and deliberate action, in a range of areas (e.g. medical, pharmaceutical, housing, environmental). Local government’s history of providing necessary infrastructure, social services and amenities suggests that it is well placed and qualified to contribute towards salinity management. Local communities also have a reasonable expectation, as evidenced by interviews conducted in this study, that their local governments should be actively involved in salinity management.

4. Local government is bound to implement sustainable development principles to ensure long-term viability of its local environmental, economic and social interests. A sustainable development framework provides a useful policy and decision-making tool for local governments to use in natural resource management, including salinity.

5. The role and responsibilities of local government are defined within authoritative legislation. Such relevant legislation could be amended in Western Australia to empower local government to extend its role and responsibility in natural resource management (including salinity).

6. Inadequate resources restrict local government’s action towards salinity. This problem is accentuated in rural areas where a smaller rate base further limits the amount of funds that can be raised. Local government in rural areas also provide extra services, such as medical, pharmaceutical, nursing and aerodromes, that are not usually the concern of their metropolitan counterparts.

7. Resource sharing has assisted local governments in providing effective services to their respective communities. This strategy, along with regionalisation, provides greater scope for local governments to access the necessary resources needed for effective salinity control. Future legislation in Western Australia is likely to consider restructuring of local government (i.e. amalgamation or regionalisation). As part of this process it would be
desirable for local government to be given greater recognition in, and capacity for, natural resource management (including the authority to enforce compliance).

8. Local government's ability to access Commonwealth funding (e.g. Natural Heritage Trust, Landcare) provides an avenue for acquiring revenue and resources for salinity projects. State government could provide further resources, such as suitably qualified environmental officers, to compliment the Commonwealth contribution.

9. Grant allocation formulas, pursuant to the Local Government (Financial Assistance) Act 1995 Commonwealth, could give primacy or better recognition to local governments affected by environmental problems, such as salinity.

10. Future research in this field could involve the Commonwealth Department of Local Government, in collaboration with the Western Australian Government, in a comprehensive study of local government action on salinity. While the present study was only able to consider two local communities in detail, the proposed research would cover the broad geographical extent of all communities in the Wheatbelt. Similar research could also be proposed in eastern Australia.
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APPENDICES

Appendix A

Ethics Advice Letter

Paul Scalzi
Honours Student
Edith Cowan University

Reference: ps
To:
Dear
RE: REQUEST FOR INTERVIEW - PROPOSED RESEARCH INTO LOCAL GOVERNMENT'S RESPONSE TO SALINITY

I am a student in my Honours year of an Undergraduate Arts degree at Edith Cowan University. I am conducting research into Local Government’s response to dryland salinity. This environmental problem has far-reaching environmental, economic and social effects and this study aims to review what is being done at a local government level. It is hoped this research will identify the positive contribution at this level of government and provide a framework to developing a model of ‘best practice’.

Your participation would greatly assist the progression of this study and assist in ensuring a comprehensive review on the subject. It is expected that interviews will take no longer than 20 minutes. I’m hoping to conduct an open style interview reviewing your involvement and particularly your opinion to local government’s response to dryland salinity. Any involvement will remain anonymous at your request.

Please find appended a Consent Document required by the University. Could you please complete and return in the stamped, self-addressed envelope. I will contact you by telephone to inquire about your interest and arrange a mutually convenient time for an interview. Should you have any queries please contact my self on [contact information] or the Post-Graduate Supervisor listed below.

Yours sincerely

PAUL A SCALZI

Supervisor: Dr Hugo Bekle Senior Lecturer
Appendix B: Definition of terms or operational definitions

Council: the local government or municipal council of an area including an administrator.

Government: the mechanism through which ordered rule is maintained, the machinery for making and enforcing collective decisions.

Municipality: an area administered by a local council as an authority of local government.

Statutory authority: a body entrusted by statute with functions to be performed in the public interest or for public purposes.

Department of Local Government and Regional Development: the State Department of Local Government administering legislation under control of the Minister of Local Government. The Department has an important role in formulating policies and programs.

Western Australian Municipal Association (WAMA): federation of the Local Government Association (LGA), Country Shire Council Association (CSCA), the Country Urban Council's Association (CUSA) and was formed to represent member councils regarding matters of local government. It operates a number of services but is noted as a key player in mediating between State and local governments on policy matters, projects and administration.

Western Australian Local Government Association (WALGA): formerly WAMA.
### Appendix C: DOLA Land Monitoring Project

- Salt Affected Agricultural Local Governments in Western Australia

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Salt and local government
Priority Regions

Note: Precise region boundaries will be set out in the Bilateral Agreements between the Commonwealth and the States/Territories.

- Avoca - Loddon - Condahln - Bangarang
- Latrobe - Murrumbidgee - Midlands
- Adelaide - Murray - Darling - Murray
- Northern Agricultural Region
- South West
- Ord
- South Coast
- South East
- Upper Murray
- Mount Gambier
- Esperance
- Mt Hagen- Laverton
- Northern Agricultural District & Lower Murray
- Flinders
- Eyre - Yorke
- South Australia
- Western Australia
- Northern Territory
- Queensland
- New South Wales
- Australian Capital Territory
- Tasmania

Appendix D National Action Plan Priority Regions

Salinity and local government

action

Salinity & Water

AUSTRALIA

Release date: June 2002