1. Synthesis of the ‘People, communities and economies of the Lake Eyre Basin’ project

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Shortened forms

GAB Great Artesian Basin
LEB Lake Eyre Basin
MEE monitoring and evaluation of engagement
MERI monitoring, evaluation, reporting and improvement
NRM Natural resources management
NSW New South Wales
NT Northern Territory
Qld Queensland
SA South Australia
The purpose of this synthesis is to present an overview of the main findings of the ‘People, communities and economies of the Lake Eyre Basin’ project. This synthesis is designed as a stand-alone document and as the keynote chapter in the edited compilation of project reports. This three-year study has developed from the stance that successfully caring for the country and the communities of the Lake Eyre Basin (LEB) depends on four principles. First, it is crucial to better understand the social and economic landscape of the LEB and its resources. Second, effective management of the LEB is underpinned by building effective engagement processes between residents, management agencies and policy makers. Third, it is necessary to identify and explore the key human dimensions specific to remote regions that affect the management of the LEB now and into the future. Finally, the fourth is to develop a mechanism to underpin long-term social learning to support the effective governance of the LEB in the form of a monitoring process. In contrast to monitoring frameworks used for day-to-day compliance monitoring, we emphasise that the framework developed in this project focuses on supporting continual learning that needs to be built into ongoing management activities to facilitate long-term care of the LEB and its communities. For organisations that are faced with the unique management challenges of remote regions, and are already stretched in terms of available resources, additional funding may be required.

The synthesis begins with an introduction and background to the project presented in section 1, followed by a description of the project methods in section 2. This is followed by an overview of the four main components of the research project: a regional profile of the LEB, a toolkit of success factors of NRM organisations, case studies of successful natural resources management (NRM) engagement processes and a framework for monitoring successful engagement processes in the LEB.

The findings from component 1 (regional profile) are presented in section 3 and emphasise that the social profile of the LEB is characterised by a small, sparse population. Though small, it still varies considerably in terms of population density. Its relative social and economic advantage in terms of income, education and employment also varies considerably. The most widespread economic activity is pastoralism; however, both tourism and mining are significant industries. The LEB has important gold, copper, zinc and uranium deposits. Beside the mineral and energy resources, the LEB overlies a large proportion of the Great Artesian Basin, containing approximately 64000 million ML of groundwater, much of which is potable. The majority of soil resources are of limited commercial use. It is also noteworthy that evaporation exceeds precipitation across the region, making it one of the driest parts of Australia.

Section 4 presents findings from component 2 of the research, which developed a set of ‘success factors’ for NRM engagement. Some of the tools and principles are specific responses to regional characteristics: respecting desert time frames and being opportunistic when resources and circumstances arise infrequently. Other success factors presented are generic, such as building community ownership, communicating well and maintaining transparency, although the implementation of these may also involve desert-specific issues. Maintaining credible staff and avoiding community burnout are major issues for NRM in general, and this research demonstrated acute reliance on particular individuals throughout the LEB who take on multiple roles. Community residents emphasised that the processes of engagement should be sympathetic to the distance travelled and the time taken for people to attend workshops or committee meetings and the resources required to achieve this level of engagement. A crucial issue for NRM engagement in the LEB is that regional organisations are strongly limited by...
the resources available to them. In this way, the ability to engage upwards with governments is a key dimension to successful regional NRM in the LEB, where distances are great and communities are remote from the policy makers in capital cities.

Section 5 summarises the results of two case studies which represent component 3 of the research project design. The first case study involved discussing industry and demographic changes with NRM regional organisations through workshops. The research found differences in how forecast changes may play out depending on the sector and the region. In South Australia (SA), it was generally perceived that most future NRM issues would be largely the same as those faced today. For example, land holders would still be focused on day-to-day survival, but in the future NRM would be given a higher priority by land holders and government. By contrast, in Queensland (Qld) it was considered that climate change may place extra pressure on the region, and that global demographic trends may trigger increased population which would influence natural resource management and lead to new issues for this region.

In both regions, it was considered that the increase of the mining and petroleum industries would bring a considerable increase in population to the region, but one with relatively little connection to the land and limited long-term commitment to the area. In both Qld and SA, the factors influencing successful engagement into the future were seen to be largely the same as those that operate in the present. It was thought that future generations would be more educated about NRM issues, providing a base on which to build more elaborate knowledge of effective NRM. In addition, the importance of expanding partnerships and building relationships with private industry, research organisations and private conservation companies was emphasised.

The second case study involved working with individual Aboriginal brokers from across the LEB. The case study developed a framework referred to as a ‘broker diagnostic’ and reflects the importance of individual facilitators, leaders and community champions to broker the interface between Aboriginal communities and environmental programs and institutions. The framework proposes that these individuals can act as a valuable ‘litmus test’ to critically assess the support provided to Aboriginal communities to manage the LEB’s Aboriginal and shared environments and resources. The diagnostic focused on analysing (1) the level of understanding in the LEB of key contextual issues for Aboriginal governance; (2) the individual and organisational capabilities available to respond to challenges; and (3) the extent to which Aboriginal knowledge is integrated into NRM planning and management. The case study found there was significant variation across the LEB with regard to these issues.

The fourth component of the project, summarised in section 6 of this report, brings together a monitoring framework for successful NRM organisations. It focuses on the crucial role of engagement that was highlighted in the research design and expanded in the ‘toolkit’ of component 2. The framework draws on an extensive literature review of national and international monitoring frameworks and incorporates the success factors developed through community interviews, presenting these on a timeline from short-term to long-term trends. Finally, section 6 presents the elements of the framework in terms of what to monitor, how and when to monitor. The section explains the difference between monitoring for program accountability and monitoring for local adaptive learning and shows how efforts could be re-directed to place a greater emphasis on the latter. It recognises the different dimensions of successful NRM engagement for regional interface organisations, namely: inputs, process, outputs, outcomes and trends, all of which are relevant aspects to successful monitoring.

Each of these sections is expanded upon in full reports which form the subsequent chapters of this compilation. In addition, each of these chapters is available separately for download from the Desert Knowledge CRC website at www.desertknowledgecrc.com.au.
1. Introduction

The Lake Eyre Basin (LEB) is situated in central Australia and spans the borders of South Australia (SA), New South Wales (NSW), Queensland (Qld) and the Northern Territory (NT). At approximately 1.2 million square kilometres, it covers around one-sixth of the Australian landmass and is among the world’s largest internally draining river systems. In addition to being a unique ecological environment, the LEB is also a special social environment, with a sparse population of Aboriginal and non-Aboriginal people. The economy comprises the major activities of mining, pastoralism and tourism. It is important to recognise that there are features that are specific to natural resource management (NRM) in remote locations such as the LEB. Other broader issues are common to rural Australia, such as drought, declining terms of trade, threatened profitability and population decline, but are compounded by the sheer size, isolation and harsh climatic conditions in remote and arid lands.

1.1 A focus on engagement

By their very nature, regional NRM organisations are at the interface between, on the one hand the resident communities of their respective regions, and on the other the Australian and State Government policy arenas that give them their mandate to act. Given the importance of this interface, this project focuses on the process of engagement which characterises the success (or otherwise) of regional NRM. Careful attention to these processes is particularly important in remote dryland regions where resources tend to be scarce and variable, and inherent challenges exist in conducting NRM due to a suite of key factors including the sparseness of the populations and the distance to the decision-making arenas of Australian and State Governments (Reynolds et al. 2007, Stafford Smith 2008). The topic of civic, business and government engagement has been widely embraced from a range of different perspectives and disciplinary areas (for example see Leach et al. 2005, Boxelaar et al. 2006), although perhaps with more emphasis on ‘engaging communities’ rather than looking critically at how all parties can effectively collaborate. The importance of fostering and harnessing community engagement has been identified as crucial to building a prosperous future for rural and remote regions in Australia, and is a key dimension of regional NRM in general (Fenton 2004, McDonald et al. 2005, Rogers 2005, Smith et al. 2005).

It is in this institutional environment, across jurisdictions of four separate NRM organisations – South Australian Arid Lands NRM Board (SAAL); Desert Channels Queensland (DCQ); NT NRM Board; and the Western Catchment Management Authority in NSW – that the LEB’s resources are managed. In addition, the Lake Eyre Basin Ministerial Forum, including Ministers from Australian, South Australian, Qld and NT Governments, seeks to ensure a region-wide coordinated approach to management of the LEB.

1.2 Project components

The project was designed to address some of the challenges and needs identified in section 1.1 through four phases. These four components are reflected in the structure of this report.

- Component 1: developing a socio-economic profile of the LEB.
- Component 2: developing a ‘tool kit’ of successful engagement through extensive literature review and interviews with community and government representatives.
- Component 3: two case studies of engagement – one analysing Aboriginal engagement and the other looking at engagement in the face of anticipated changes in industry and demographic characteristics.
- Component 4: developing a framework to help interface organisations monitor engagement.
Throughout the design and implementation phases, the project was supported by a Project Steering Group which included members of the LEB Community Advisory Committee, the LEB Scientific Advisory Panel, representatives of LEB regional NRM bodies, staff of the Desert Knowledge CRC, and policy advisors supporting the NRM Ministerial Forum. This group played a key role in facilitating engagement with community and policy stakeholders throughout the project.

2. Methods overview

This section presents a brief overview of the methods used for each component of the project. More detailed discussions for each component are presented in the respective reports associated with these components.

2.1 Component 1 methods

The regional profiles of the LEB were compiled from secondary data. The principal data sources were:

- Soil information stems from the digital atlas of Australian Soils from the Bureau of Rural Sciences (BRS 2005)
- GAB springs and bores spatial data from the Bureau of Rural Sciences, Department of Agriculture, Fisheries and Forestry.
- Australian Standard Geographical Classification 2001 (for local government areas)
- Population/demographic data calculated from 2001 census (ABS 2001)
- ABS 2001 Socio-economic indexes for Areas (SEIFA)
- Topographical data from AUSLIG TOPO 2.5M (1:2.5 million) data.

In addition, a social network analysis was conducted drawing on secondary data to represent the formal relationships between NRM institutions and organisations in the LEB in the form of membership of Boards and related official advisory roles.

2.2 Component 2 methods

The ‘toolbox’ of success factors was generated from background literature review, interviews with Australian and State Government agency liaison officers with responsibility for the LEB and an innovative community-based research methodology (see Measham et al. 2009 for more details).

Key government representatives were identified as the Regional Liaison Officers responsible for achieving effective NRM collaboration throughout the LEB. Liaison officers were approached in Australian and State Governments, leading to a total of eight interviews. These interviews were semi-structured and conducted by experienced social scientists.

The project tapped into local knowledge and networks by engaging and training LEB community members to collect information by conducting interviews in their local areas (total 49). This project is novel in that the individuals we refer to as ‘community-based researchers’ are not necessarily formally trained ‘experts’, but people living within the community who can access existing networks of trust and who, as locals themselves, are well-versed in the challenges of NRM in arid and remote areas.

All interviews were digitally recorded and transcribed. The content of the transcripts was analysed to identify key themes with the assistance of NVivo qualitative analysis software. These themes form the basis of factors for success reported in section four of this report.
2.3 Component 3 methods

Component three was developed as a result of discussions with regional bodies through the course of conducting component 2 and involved two case studies, each discussed below.

2.3.1 Case study 1: forecasting demographic and industry changes in the LEB and their effects on engagement

Case study 1 involved a combination of a desktop analysis of available secondary data, two workshops with regional organisations, and in-depth interviews with staff from one regional NRM organisation. Based on the desktop analysis a series of illustrative forecasts were prepared to summarise available secondary data about demographic and industry change over the medium term (10–20 years). It is important to emphasise that these documents were not designed to be analytical in their own right. Rather, they were designed to present an illustrative sketch of existing forecasts to prompt discussion through workshops with NRM interface organisations. Using these forecast sketches, workshops were held with a) SAAL NRM Board and b) DCQ. Workshop participants comprised staff employed in interface roles, managers and advisory board members. The focus of the workshops was on:

- understanding and considering the forecast scenarios
- reviewing existing options for maintaining and enhancing engagement processes
- developing strategies to address future scenarios including links across sectors
- assessing the relevance of component 2 ‘success factors’ now and in the future.

Following the workshops, a series of in-depth face-to-face discussions were conducted with staff employed in interface roles to relate the success factors from component 2 to daily engagement activities to assist embedding these factors in on-ground activities.

2.3.2 Case study 2: Aboriginal broker diagnostic

The Aboriginal broker diagnostic case study gathered perspectives from ‘brokers’ who are funded by government programs to manage the interface between Aboriginal communities, local and regional organisations and government agencies. This provided a pragmatic ‘litmus’ test of Aboriginal participation in sustainably managing LEB environments.

Titles for Aboriginal brokers varied from ‘facilitator’, ‘manager’ and ‘leader’ and were chosen based on formal roles established by government environmental programs and informal roles chosen by Aboriginal communities. Each broker was asked questions to obtain their perspectives on their role and how it fitted with the principles outlined above. Brokers funded to manage this interface at local, regional and LEB-wide scale (includes Australian and State Government–level facilitators) were interviewed face-to-face or over the telephone (n= 27) between 2007 and 2008 and a few (n=5) responded to an internet survey.

2.4 Component 4 methods

The methods for component 4 involved synthesising a framework from the following sources.

**Literature review** comprising:

- theory of social and economic monitoring relevant to engagement
- international examples of social and economic monitoring relevant to engagement
- Australian examples of social and economic monitoring relevant to engagement.
Research experience from the ‘People, communities and economies of the Lake Eyre Basin’ Project, in particular:

- success factors developed in component 2
- case study 1 of SAAL Board and DCQ
- case study 2 of success factors for Aboriginal NRM brokers.

3. Component 1: regional social, economic and resource profiles

The LEB is Australia’s largest inland catchment with a size of approximately 1.2 million square kilometres (SKM 2002) and is home to almost 60,000 people. The sparsely populated desert landscapes in the LEB make natural systems and human activities fundamentally different from wetter and more populated regions in Australia. Over most of the LEB the climate is arid and semi-arid, and biological processes are driven by episodic weather events that generally do not follow predictable annual cycles. Infrequent rains and hot-drying winds shape the landscape and drive production in natural ecosystems. In these landscapes evaporation far exceeds annual rainfall. Implications of the regional institutional context are presented in 3.1 (see Larson 2009 for details), followed by an overview of the regional, economic and resource profile of the LEB in 3.2–3.5 (See Herr et al. 2009 for a detailed version). Analysis of regional networks is summarised in 3.6.

3.1 Regional natural resource management context

The current regional NRM policy environment reflects a focus on decentralised processes as a key strategy for achieving NRM outcomes. Central to the current NRM context is the role of regional institutions that interface between local groups and issues, and national funding priorities. The LEB comprises four legislative regions, each with different legislative arrangements for administration. These have the following characteristics compared with the rest of Australia:

- high percentage of land under leasehold arrangements
- high percentage of land under native title claims
- high percentage of land in Aboriginal ownership
- high percentage of Aboriginal populations
- sparse population resulting in quantitatively low human capital
- large physical areas under administration by a single NRM board.

The following key specific issues of the NRM engagement in remote regions of Australia were also identified (Larson 2009):

- There is no single ‘right’ scale for management: collaboration between regional and local levels and between regional level and key national (both government and commercial) players is needed, as is ‘horizontal’ coordination between and among NRM bodies.
- Capacity development of both agencies and communities to enable effective engagement in the process is essential, yet complex and expensive; complexity and expense of capacity development should not be underestimated.
- Tension exists between local knowledge and scientific knowledge. Better linkages between local knowledge, science and policy would facilitate more acceptable policy actions and development of robust monitoring and learning programs.
- Availability of data on the cultural, social and ecological values placed on natural resources in remote regions is limited. Efforts of the NRM bodies are experiments in policy interventions; they therefore need to be carefully and continually monitored, evaluated and adapted.
- The vital role of volunteers in regional NRM needs to be recognised and supported. The role of ‘champions’, and ways of recruiting and maintaining their interest, warrants further investigation.
- Traditional owners need to be better acknowledged as key stakeholders. Engagement mechanisms viewed as suitable and appropriate by both Aboriginal and non-Aboriginal stakeholders need to be developed.
- The ‘stakeholders’ concept needs to be expanded beyond current limiting identification of ‘stakeholders’ with ‘land holders’. Greater involvement of other segments of community should be encouraged, including communities of practice, commercial enterprises and others with interests in the region.
- Significant power is retained by NRM Joint Steering Committees and/or Ministers – depending on the State/Territory arrangement. Community perceptions of the retention of this power may reduce trust in government institutions regarding regional action.
- The devolution of NRM responsibilities to the regional scale needs to be concurrent with the devolution of rights and resources. Although this issue is pertinent to any natural resources management process, it is potentially even more significant in remote regions where human, financial and other critical resources are chronically limited.

3.2 Social profile

The social landscape is characterised by small, sparse populations including large unincorporated areas. The population is unevenly distributed, with much of the population living in clusters around the edge of the LEB near Alice Springs, Longreach and Roxby Downs, as demonstrated by Figure 1.

The NT and SA have a high proportion of Aboriginal people, ranging from 40%–90% of the total resident population. At a finer scale these areas highly populated with Aboriginal people are confined to the most western edge of SA and areas around Alice Springs. Aboriginal tenures and native title determination cover approximately 2% of area and there is further Aboriginal involvement in NRM through Indigenous Land Use Agreements. In addition to having a small and unevenly distributed population, the LEB is characterised by a mismatch of administrative (and other) boundaries.

Considerable variation is found in relative advantage/disadvantage of the population in terms of education/income/employment. For example, the map shown in Figure 2 presents different levels of social advantage/disadvantage based on the Social and Economic Index for Areas based on ABS data. The green areas are relatively advantaged and the red areas are relatively disadvantaged. This allows consideration of the reasons for this difference, and the actions or opportunities that may arise from these disparities.

There are low employment areas north of Alice Springs, south of Winton and east of Tibooburra, where the unemployment rate is above 20%. In most of the LEB the unemployment rate is below 10%. However, when comparing this statistic with the labour force participation rate (LFPR) a different picture emerges (Figure 3). LFPR is a measure of the proportion of the working age population that
engages in the labour market, either looking for work or employed. A low LFPR can, for example, indicate that the population is disenfranchised from the labour market or that there is a high proportion of persons not in the labour force because of age and/or disability. There are several areas of low LPFR, mainly in the NT and SA.

3.3 Resource profile

The LEB receives low rainfall ranging from 600 mm in its north-eastern part to less than 150 mm in the southern area (Figure 4). Evaporation exceeds rainfall throughout the LEB and is highest in the southern area, where it is up to 18 times higher than the rainfall.

Most of the water in the LEB enters from the eastern river catchments, where coastal cyclones and tropical rains spill over the dividing ranges to recharge catchments. These rain depressions occasionally extend across the LEB, but are usually restricted to the upper reaches of the ephemeral rivers. Creek flows and floods then slowly move across the flat landscape toward Lake Eyre. Sometimes rain enters the LEB from the west to recharge the western rivers, but these flows are less frequent and usually smaller. Flows and floods from rains fill water holes, revitalise riparian vegetation and support water dependent ecosystems along the ephemeral river systems. Except for the occasional very large floods, water in the LEB rivers evaporates in the drying winds of the arid landscape well before it reaches the salty expanse of Lake Eyre, leaving only the occasional waterhole as drought refuge.

The Great Artesian Basin (GAB) extends under much of the LEB. The GAB is one of the largest fresh water artesian aquifer systems in the world. It underlies about one-fifth of the Australian continent and contains 64000 million ML of mostly potable groundwater, which is approximately 2000 times the total surface water storage of the combined Murray-Darling Basin. The GAB is recharged from rainfall on the Great Dividing Range. Water enters exposed aquifer systems in the Great Dividing Range and slowly moves through permeable sandstone confined between layers of shale. The water takes more than 2 million years to reach the other side of the LEB.

Water in the GAB naturally discharges through springs (mainly in the western margin of the LEB) and through leaking from the surface into the water table. Springs provide the only natural permanent water in an otherwise dry landscape. Thousands of artesian bores have been drilled into the GAB since the first artesian bore was drilled late in the nineteenth century. Bores provide the only reliable source of water to support all human activity over much of the LEB (see Figure 5).

Long dry periods and infrequent rainfall mean that the landscape experiences dramatic changes in plant and animal populations, natural processes and the productivity of natural resource–based industries. The timing, scope and duration of these natural fluctuations are not predictable, making it very difficult to recognise and evaluate the impact of human activities in this changing environment. There are some areas that show signs of increased landscape stress and hydrological condition changes as a result of humans trying to gain a livelihood from one of the driest parts of the Australian continent, where evaporation significantly exceeds precipitation and soils limit production.

Soils in most areas in the LEB have limited use for agriculture (Figure 6). Saline and physically limited soils provide the least opportunity for agricultural use. On the fringes of the LEB are soils with low fertility that lend themselves to nutritional improvements, given sufficient precipitation. The majority of these occur in the Diamantina and Cooper’s Creek catchments.
3.4 Economic profile

The life patterns and resource economics of early Aboriginal inhabitants of the LEB were largely determined by the wetting and drying cycles in the landscape. Food production associated with rain events and floods and the refuge offered by widely scattered springs and waterholes during dry periods remain an integral part of Aboriginal culture and life on their traditional country.

The major employment sector in the LEB today is agriculture (36%), which is consistent with grazing being the major landuse in the LEB (see Figure 7). Besides grazing, tourism and mining are the other two important natural resource–based industries in the LEB. While mining and agriculture rely on the extraction of natural resources, tourism uses resources directly through hunting, fishing, fossicking, amenity, services and infrastructure (e.g. roads, tours). The vast expanses of the LEB provide a tourist experience based on natural and cultural heritage features. Commercial interest is growing since visitor numbers are increasing. Visitor estimates for 2001 are well over 2 million people for the key tourism areas within and adjacent to the LEB (Schmiechen 2004). This classifies tourism as a major industry with the potential to significantly contribute to the economic viability and livelihoods of the LEB.

Mining is another, albeit more localised, important contributor to the LEB economy (Figure 8). Increasing commodity prices over the last years have sparked exploration efforts and new mine developments. The LEB has important gold, copper, zinc and uranium deposits and contains significant oil and gas extraction facilities. However, mining employees are often fly-in/fly-out inhabitants of larger centres outside the LEB, so that flow-on effects from mining wages are mostly distributed outside the LEB. The census data includes miners living outside the LEB.

3.5 Summary of key findings

In summary, the regional profile of the LEB draws attention to the following findings:

- Most areas in the LEB are classified as remote and people living in the LEB have to travel large distances to the major health and service centres.
- The major land use in the LEB is grazing, followed by conservation. Most land is under leasehold tenure (see Figure 7).
- Major employment sectors in the LEB are agriculture followed by government, retail, health, education and personal services and construction. While mining is currently the most economically important industry in the LEB, in many cases it uses fly-in/fly-out labour.
- The major water supplies for people and industries come from the GAB and from periodic flooding. There are concerns for the sustainability of the ground water extraction, though the management of this is continually improving.
- The LEB scores low in all four socio-economic indices that the Australian Bureau of Statistics developed to describe the wellbeing of the nation.

3.6 Social networks of LEB

Research on the partnerships and organisational relationships of the LEB was conducted through a social network analysis of formal relationships, characterised by such roles as membership of boards, employment, and registered associations. This activity was conducted for the major sectors of the economy and communities of interest including:

- pastoralism, mining, Aboriginal people, tourism
- government and non-governmental organisations.
This analysis has shown that across the LEB, formal links within sectors are generally strong. For example, pastoralists have strong links within their industry, as do tourist operators. In contrast, across the LEB formal links between sectors are generally weak. The implication is that more could be done to stimulate productive interactions between, for example, those in the mining industry, pastoralists and Aboriginal peoples.

Between-sector interactions were particularly weak for mining and petroleum. The nature of these networks complicates effective engagement across sectors (such as mining and grazing). Historically, this has also been reflected in governance arrangements (separate departments for different sectors). The challenge is to improve ‘weak’ interactions so that there is greater ownership of initiatives aimed at producing a more sustainable future for the LEB.

4. Component 2: A toolkit of success factors for NRM organisations

The toolkit of success factors draws on agency and community perspectives. To put these in perspective, a literature review was conducted which drew attention to the following factors that characterise successful engagement in a wide variety of contexts:

- community ownership
- promotion of inclusiveness, equity and trust
- inclusion of multiple interests
- focus on strategic outcomes
- transparency
- well defined appropriate scale and scope
- sufficient resources and access to assistance
- effective communication.

See Measham et al. (2009) for a further discussion. A summary sheet developed for interface organisations in desert areas based on these results is also provided in Appendix 1.

4.1 Agency perspectives

Among the government interview participants there was a strong recognition of the challenges for successful NRM engagement processes in remote areas. There was a recognition that remote regions attract less attention compared with more densely populated regions, which in turn is reflected in reduced investment. This is particularly relevant when agency staff are responsible for whole States, rather than just remote areas. This represents a kind of conceptual remoteness, in addition to the physical remoteness that is already well known.

Maintaining effective engagement processes in a remote location like the LEB requires a high level of extra skill and commitment on behalf of the interface organisations themselves and those they engage with. From this point of view, successful engagement in remote areas requires a high degree of political awareness in order to attract support for resource challenges that have longer-term needs and impacts instead of only the topical issues. However, another way of looking at this is that the very remoteness of the LEB could be an advantage, because a smaller population could be easier to work with. The key to realising this advantage is to develop the most appropriate engagement processes for remote areas, which may need to be different from other NRM regions.
4.2 Factors for success

Several themes of the successful engagement have emerged from the interviews with the government representatives, and are presented in sections below.

4.2.1 Building and maintaining trust

There was a general perspective from government liaison officers that across Australia interface organisations, and particularly NRM Boards, varied enormously in terms of the degree to which they were perceived as ‘community organisations’ or ‘another arm of government’. The way that communities engage with interface organisations was seen as intrinsically linked to this perception. In the case of the LEB, two of the main interface organisation (SAAL NRM Board and NT NRM Board) have specific statutory powers and operate under government legislation, while DCQ strongly distances itself from government and presents itself as an independent organisation, despite receiving substantial government funding and support. It must be kept in mind, however, that interface organisations cannot be wholly independent, but operate in accordance with political forces. Interface groups cannot operate outside government policy. They will not be funded and supported by governments unless they contribute to policy implementation. A key task for all interface organisations is to define their relationship between regional communities and governments as they build social capital with their constituents and continue to operate within their terms of reference. In environments where stakeholders generally lack trust in government, interface organisations need to find a balance between acknowledging their government program delivery role and maintaining the role of representing the interests of local stakeholders.

4.2.2 Attracting and retaining credible staff

Long-term staff are needed for the necessary experience, respect and credibility that underpin effective engagement. For staff working in interface organisations, engagement extends across both the community and government spheres. Staff need both the capacity to engage with government processes and agendas and the ability to engage with diverse community needs and expectations.

One challenge is attracting staff in the first place. A key issue to achieving this is being able to offer adequate tenure for new staff, a problem that is exacerbated by short-term and uncertain funding environments and one that has already been noted since before the regional NRM model was developed. This problem disadvantages remote areas because it serves as a disincentive towards attracting skills from urban areas. Retaining staff and providing new staff with appropriate training are additional challenges. Overall, finding and retaining credible staff who perform multiple roles was identified by the respondents as one of the key factors for successful NRM engagement in remote areas. The importance of this factor was also noted in the recent report by Haslam McKenzie (2007). These individuals play a crucial role in all the other success factors discussed in the interviews, through effective communication, building partnerships and realising on-ground action.

4.2.3 Visibility/local involvement

Government interviewees noted that getting out on the ground is an important factor in successful engagement in remote areas. They were aware of the inherent challenges for doing so in remote areas given the large areas and small number of staff. They noted that this required strong commitment from interface organisations. In the NT, the staff have to cover the whole of the Territory and are mostly located outside the LEB; however, one officer is located in Alice Springs and this type of investment in on-ground staff is critical. From the perspective of one such regional facilitator, the key to this role is to be active at the local scale in order to convey ideas and make it happen. Skilful facilitators learn to become translators between needs, aspirations and cultures of resource users and the language, culture and processes of government bureaucracies.
Part of being locally recognised is also the issue of being seen to be open to community input. Successful on-ground facilitators are approachable and know how to interact with different organisations and sectors. This links strongly to two more success factors: being adaptive and effective communication.

4.2.4 Being adaptive
Successful NRM engagement involves reviewing and updating engagement processes. At the organisational level, this involves reviewing internal governance arrangements which provide the context for effective engagement to occur, including adjusting the composition of the Board over time in some cases. At the individual level, staff also need to be adaptive in terms of how to engage with different sectors or organisations and take note that over time community perspectives can change.

Another way of viewing adaptability concerned the need to be aware of changes in the operating environment, such as government agencies and regional needs. Part of this flexibility involves identifying emerging priorities and the most effective ways to address these. Being adaptive involves paying attention to new research on key issues such as pests and seeking to apply suitable technologies to address those challenges. It was also noted that interface organisations have a role in identifying gaps in knowledge and policy responses, and being flexible about working with other agencies on those gaps.

4.2.5 Enthusiasm and determination
Relating to flexibility, enthusiasm and determination play an important role in engaging remote communities due to the particular challenges of their environments. When applied together, determination, enthusiasm and being flexible about the manner in which engagement is conducted were found to promote successful engagement across the greater distances of remote areas such as the LEB. Another way of looking at determination is patience and persistence. One government liaison officer suggested that in dealing with government agencies, a key to successful engagement is the patience and persistence to navigate complicated internal structures to reach the desired information.

Over time, developing an understanding of the ‘avenues’ within the policy environment can provide access to important information and knowledge. While this example focused on government organisations, the importance of patience and ingenuity applied in other contexts too, such as working with the many committees that characterise the social landscape of NRM. In some instances, the enthusiasm to facilitate more open sharing of ideas and information across organisations was regarded as positive initiative and good will. While crucial elements, enthusiasm and determination alone are not sufficient, and rely heavily on time and money being available. This leads us to discussion of the resources success factor.

4.2.6 Adequate resources and accountability
Government agencies have developed processes to ensure investments are accounted for and appropriate outcomes are achieved. Continued investment depends on being able to achieve the milestones that processes dictate. On the other hand, community support depends on timely and significant outcomes that affect community interests. Central to the success of regional NRM engagement is achieving the milestones as defined by government agencies to maintain transparency while interpreting these in a way that is regionally relevant. Apart from the strategic skill in navigating this, it is also recognised that meeting compliance requirements under the regional NRM model requires substantial resources in terms of time and money, in addition to the resources required for the engagement activities. As summed up by one participant: ‘Money speaks volumes’.

Another way of looking at the adequacy of resources concerned how those resources are managed. Interface organisations have a degree of flexibility for managing their resources, hence the importance of ‘self assessment’ or ‘self-learning’ to improve internal management of resources. Overall, accountability is focused on reporting both to government through compliance-related measures, as
well as to the community directly. Achieving both of these is challenging but central to promoting successful engagement. An alternative suggestion in terms of the adequacy of resources was that a lack of resources could, hypothetically, trigger innovative approaches to addressing regional issues. In particular, there was potential for innovation through partnering, which leads to the next success factor.

4.2.7 Effective use of partnerships
Recognising the value of partnerships and relationships is a crucial element of successful engagement, particularly in remote areas where time frames can be longer for NRM processes. While ‘managing’ relationships in many ways is up to the people involved, there is also a role for NRM arrangements to support the circumstances for partnerships to develop. Partnerships can help to overcome some of the additional costs of addressing extensive long-term NRM challenges in remote areas. It was noted that some of these issues were generally understood (e.g. weed and feral animal management), while others were less well understood (e.g. the effect of climate change). Both types of issue are more expensive to address in remote areas due to the distances involved and scale of impacts. Crucial partners noted for interface organisations were the government agencies responsible for the problems in question, as well as research organisations, particularly when it comes to addressing new challenges.

4.2.8 Representation and collective vision
Interface organisations need to reflect the NRM sectors they interact with, including representation on Boards. Related to this is having a balanced team that is effective across a range of capacities. Some participants viewed representation as beyond representing particular interests, that is, including a range of skills and expertise rather than interests alone. A good cross-section of local people was identified as one of the key dimensions to successful interface organisations. Specifically in the NT, it was noted that representation should include being culturally sensitive, given the large Aboriginal populations of remote areas. It should also include spatial representation, even though the Boards of NRM organisations are designed to be constituted on the basis of skills and knowledge.

Part of realising collective vision is for government policy to tune into community needs. Successful engagement requires developing a degree of alignment from a range of different interests, and includes willingness to adjust policy foci so that other stakeholders can be engaged. An important strategy is to look for synergies but acknowledge conflicting and exclusive issues. Importantly, collective vision cannot simply apply at the community scale. It also requires alignment across jurisdictions and scales of influence.

4.2.9 Communication
Most of the interview participants emphasised the importance of maintaining and improving communication. Communication was viewed as especially important for remote organisations where distance makes engagement more difficult. The key to achieving this communication was in part related to flexibility and willingness to adapt approaches to communication such as through the use of different mediums and formats. Furthermore, successful engagement requires communication in both directions between government agencies and interface organisations, with adequate opportunity for feedback. However, it is also necessary to be alert to the potential for a disjunct between local interests and policy recommendations or responses.

Effective communication is not just about being able to communicate with local sectors but also about knowing how to use the bureaucratic system to communicate local issues; that is, being able to take local issues and make them into issues of interest on the government agenda. There might be currently too much emphasis on building capacity with the community and not enough on building the capacity of the NRM staff to communicate effectively with the ‘top’ levels. It is through feedback that alignment and collective vision can be assessed and adjusted.
Communication was considered important, not only between the interface organisation and its surrounding community, but also between various organisations in order to learn from each other. What emerged from the interviews was that communication is both more difficult and thus more important to achieving successful engagement with all parties for interface organisations, including fellow interface organisations to help learning from each other.

4.3 Community perspectives

This section focuses on the research findings from the community, presenting some important lessons learned. Many of these findings resonate strongly with the success factors for community engagement that were identified in the literature review. For example, trust was found to be a crucial factor of effective engagement in the literature, as well as in the LEB. Other issues were found to be unique to the LEB as a collection of desert ecosystems and a physically and socially remote space.

4.3.1 Engagement in the vast variable geography of the LEB

Inevitably, many of the challenges of managing natural resources in the LEB were related to its sheer scale. A number of the interviewees noted how the LEB covered one-sixth of the Australian land mass, and contained a vast diversity of people, landscapes and management problems. With this scale also comes issues of distance and time – with many of those interviewed feeling that interface organisations were not always sensitive to the time taken to travel long distances to meetings. Those from the community highlighted the need to ensure that not all meetings were in central regions because ‘people on the fringes feel excluded and they tend to disregard what’s happening’. The ‘huge amount of time and money’ required for engagement, given these geographical realities, were also noted. Processes of engagement should be sympathetic to the distance travelled and the time taken for people, who are often volunteers, to attend workshops or committee meetings. This may have significant resource implications.

A key issue for community residents was that engagement activities such as meetings are held within the LEB. For example, it was noted as important that the annual Ministerial Forum – where Ministerial representatives of the Australian and State Governments get together and discuss issues and budgets – is actually held in the LEB, so that residents can take part. The scale of the LEB also means that it spans a number of State and regional jurisdictions and geographical boundaries. Participants identified a need for improved cross-boundary management.

4.3.2 Place-based or issue-based engagement in the outback

Having acknowledged that the sheer scale of the LEB is somewhat overwhelming for interviewees in terms of its NRM management, there was evidence that change, both in terms of social attitudes and environmental outcomes, is best effected at the local level. It was thought that place-based or issue-based NRM activities offer a tangible focus for local engagement in a bioregion that has diverse and vast landscapes and jurisdictions. Many of those interviewed identified with more localised and smaller scale projects, also revealing how trusting working relationships could facilitate change. Communication technologies such as the internet, teleconferencing and networked whiteboards can resolve some of the temporal and spatial dimensions of engagement faced by LEB interface organisations. Training to enable some local and non-government interests to use new communication technologies may be needed. The ‘localising’ of success factors in the LEB highlights how small-scale issues are more tangible and manageable but also suggests that ‘scaling-up’ to the catchment level might present challenges dependent upon the issue at stake, and the stakeholders involved.
4.3.3 Acknowledging desert time frames

Issues of time overlap with issues of spatial scale, particularly in relation to the distances that need to be travelled to engage in meetings and workshops. This is dealt with in part above. However, there are other aspects of time that are specific to remote and arid areas such as the LEB. Participants noted that it was hard to allocate time and resources to additional NRM burdens while trying to keep your stock alive and pay the bills. In this way, the effects of the seasons directly influence individuals’ ability to engage in NRM. Not only does the dry climate require more active input from land holders, but seasonal variability over long periods of time was reported to hinder the assessment of whether projects had been successful.

4.3.4 Acknowledging funding time frames

On the topic of time frames, one interviewee also noted that funding cycles did not promote continuity and consistency with staff over time. Grant programs tend to have short time frames that do not provide security for attracting staff to NRM roles. Furthermore, the importance of aligning funding cycles with the natural cycles of arid environments was also a recurring theme throughout the research. Participants emphasised the need to measure impacts over appropriate time scales because it could be many years before there is sufficient rainfall to convert management efforts into observable differences. This was compounded by a lack of continuity of personnel leading to significant problems at the local level, where effort is at risk of waning over time. Issues of funding also overlapped with concerns about community burnout, with some people identifying a link between the lack of resources and the greater potential for the goodwill of community members to be exhausted.

4.3.5 Community burnout: sparse populations managing vast areas of land

During the interviews, many LEB residents noted that there were a number of key people who were community leaders in relation to NRM issues. These people were highly valued by the community and tended to be engaged at a number of levels, often beyond issues of NRM. For instance, community-based researchers identified that these key people would also be involved in local progress associations or in organising the local sports. One negative aspect of their involvement in numerous community projects and events was the tendency of these people to be overburdened, often taking on roles as ‘no one else would do them’. Many interviewees identified this as an issue that was specific to remote regions, where populations are small and sparsely distributed. For these people, engagement and consultation can become overbearing on them personally because there are not enough individuals to share the load. This is best summed up with a direct quote from one person engaging people in NRM activities in remote areas:

> It’s a challenge because the cost is huge because of the distances involved and the logistics. The isolation is enormous. [There is] social exhaustion. There’s such a small handful of people that you wear out and get exhausted.

This issue can affect community leaders and project staff from NRM organisations alike who tend to be ‘run off their feet’, partly by the lack of individuals involved and compounded by the distances involved. In the case of volunteers serving on regional committees and the like, providing effective compensation for travel and related costs and greater recognition of their efforts would go some way to alleviate burnout and would encourage others to get involved.

4.3.6 Communications

When asked about the success factors of interface organisations, many of those interviewed placed high priority on communications. Crucial to the effective functioning of organisations was the role played by key people in communicating. Interviewees identified that good communication:

- occurs when NRM personnel officers are able to talk to people, one to one
can take place once an organisation and its personnel have clearly articulated their roles and where their organisation fits within the network of organisations across the Lake Eyre landscape

• reduces costs and the likelihood of ‘reinventing the wheel’

• raises an organisation’s profile

• enables interface organisations to assess the needs of the community, rather than pre-empt their needs

• happens when there are effective translators who act as an information conduit across diverse sectors, such as land holders, NRM bodies and Australian, State and local Governments

• can facilitate stronger links, networks and relationships of trust.

4.3.7 Networks of trust

Another side-effect of effective communication was identified as building networks of trust. Interviewees identified a number of factors that facilitated greater trust relationships between local communities and regional NRM Boards and other organisations. Important dimensions to building networks of trust are:

• listening
• treating people fairly, without discrimination
• respecting different perspectives and interests
• maintaining transparency in governance processes
• acknowledging and recognising the work that people are doing.

The maintenance of good social networks through processes of communication and inclusion were identified as instrumental in effective NRM engagement.

4.3.8 Getting on with the job: less talk and more action

While recognising the need for effective and inclusive communication, there was also a strong theme that there should be ‘less talk and more action’. For some, this desire for more ‘on the ground action’ was due to the perception of the bureaucratic activities of interface organisations, where large volumes of paperwork were generated and too much time was spent in ‘talkfests’. For many, processes that occurred at the ‘grass roots’ level, or ‘on the ground’ proved that the local population was being listened to, confirming that they had an important role to play in NRM planning and actions. From the interview data, organisations are successful in achieving ‘on the ground’ action when:

• there is less talk and more action
• less time is spent in the office
• land holders have access to an organisation’s staff
• staff constantly communicate with people, and make an effort to visit properties and talk to people face to face
• local people are also skilled in working with organisations (for example, they have skills in using the internet or email)
• the local community ’drives’ projects rather than just ‘participates’
• organisations are in touch with ’people on the ground’ and their needs.

4.3.9 Regional NRM governance structures

A number of comments were made about the role of NRM Regional Bodies, and their role as translators between the community and the government. Some saw their role as problematic for a number of reasons, including:
• governments have passed responsibility to regional bodies (as interface organisations) but not necessarily the power to set their own agendas
• regional bodies appear to be another layer of bureaucracy with their own paper work and meetings
• community members often relate to these organisations as ‘de facto governments’ as they are government funded and appear to do the work of government.

Despite a perception that NRM bodies operated as another tier of government, a number of people interviewed felt that many interface organisations did not have power and autonomy to effect change that was aligned to local needs. In particular, they lacked discretionary funds to respond to regional concerns.

4.4 Discussion relative to characteristics of desert regions

The existing literature on remote desert areas in Australia has argued that they share a number of key drivers that together distinguish them from more settled regions, namely: climate variability; scarce resources; sparse populations; distant voice from decision making and markets; social variability in markets, labour and policy; limited research knowledge and persistent traditional and local knowledge; and distinct cultural differences (Stafford Smith 2008). The sections below systematise the impacts and responses to the key engagement principles emerging from this study against these key drivers.

Climatic variability is of such overriding biophysical importance to NRM in the LEB that interface organisations have to be strongly aware of its context for their activities – as shown in the consultations for this project.

- Be very aware of the effects of drought (and floods) on engagement processes; drought can increase engagement fatigue
- The longevity of projects and detecting their success is also often dependent on climatic cycles.

In terms of scarce resources, the limited productivity of most lands in the LEB means that options open in other regions may not be appropriate here. It may even greatly limit the ability of people to find time to carry out or be involved with engagement activities, so that realistic funding is needed to support this. On the other hand it highlights the importance for organisations or sectors with scarce resources to build partnerships with organisations and sectors that are better (or more reliably) resourced, such as mining and local government and in some cases tourism.

As the overriding social driver, the effects of small and sparse populations of the LEB relate to every aspect of interface organisation activities, both positively and negatively. While there are significant constraints in terms of numbers of skilled people, with implications for burnout, and long distances to travel for engagement between dispersed population centres, there is also the potential to reach agreement on goals relatively quickly. Small size emphasises the need for, and possible benefits from, partnerships among stakeholders. The sparse and patchy distribution of people means that travel and engagement costs are high, which needs to be allowed for equitably in budgets; alternative, innovative engagement options are also important.

- Be creative about setting up more partnerships with stakeholders who are less involved, but possibly better resourced, to increase critical mass
- Use the small community size to get strong agreements quickly
- Allow for lots of travel in budgets and staff expectations
- Have local on-ground facilitators.

•
Having a distant voice is perhaps the most important consequence of a sparse population, as isolation imposes a great need to make and sustain the case for remote regions to distant interests. This demands a particularly high degree of political awareness and networking. The constraints on livelihood strategies in remote regions may also mean that agreed community goals are qualitatively different from ‘mainstream’ expectations, so clear, persistent and enthusiastic articulation of these is vital. A consequence of past effects of distant voice is that remote communities tend to be mistrustful of distant experts and government decisions; however, the small community size does allow engagement more easily than might be imagined, excepting the cost of travel again. Hence interface organisations need to tread a fine line between connecting with government and being seen to maintain independence. Agencies need to respect this when done well. The inherent challenge for all this is that interface organisations need to be accountable and transparent to both their community and government constituencies.

- Maintain some independence from government but respect the balance on both sides
- Be prepared to think through and articulate why the region may need different approaches to elsewhere
- Be aware of likely community distrust, but engage locally to overcome this.

Social variability is characterised by unpredictability in staff turnover which is a dominating concern for remote areas. Issues such as longer contracts, adequate tenure and support for long-term staff are paramount. Coupled with this is the need for staff in small organisations and communities to play multiple roles, which also need to be valued, and supported with training. Variability caused by markets, policies, staff and climate all drive the need for staff to be tremendously flexible and adaptable.

- Be imaginative and flexible in creating longer-term contracts and attractiveness in regional NRM jobs
- Value and train people for multiple roles.

The importance of local knowledge stems from the fact that formal research will always be modest and the vast areas of the LEB demand sensitivity to local conditions in ways that are less important in small coastal catchments. Hence it is strategic to emphasise local knowledge (including Aboriginal knowledge) in interface partnerships. However, these need to create the best possible alliances with agency and scientific knowledge where possible. Local community ownership of NRM planning and implementation activities is needed so that there is access to locally relevant knowledge. Horizontal learning among NRM groups (often themselves far apart geographically) is also important to speed up the rate of improvement; governments have a key role in facilitating this. Measuring appropriate factors – e.g. outcomes, staff turnover, collaboration, awareness, representativeness – can provide vitally important feedback for learning.

- Ensure representative engagement with the community to gain true community ownership that permits access to locally relevant knowledge.

Governments need to recognise that all these factors mean that there are cultural differences in people and institutions in remote regions such as the LEB. Successful local organisations may operate rather differently from those in more settled areas; therefore, specific flexibility in how organisations operate should be allowed, that is, define the necessary components for accountability and transparency but then allow the community to self-organise. Conversely, the community must recognise and respect the fact that government staff have institutional pressures which may not match local priorities, and work with (and around) these rather than just running into conflict with them.

In considering the success factors presented in this research, it is clear that NRM engagement requires a multitude of seemingly contrasting characteristics: to be independent yet maintain effective partnerships; to be the voice of the community while being in alignment with government priorities; to
be determined yet adaptive. This demonstrates that the very nature of interface organisations poses a challenge in terms of having multiple, and frequently competing aims and priorities. However, at least it is clear that these challenges are recognised by community members and government officers alike, as is the importance of supporting successful engagement processes. This was reflected in the high degree to which the participants who took part in this research were keen to hear of the outcomes of the study and to contribute towards and to receive the outcome of the ‘factors for successful engagement’ presented in this study.

5. Component 3: Case studies of regional engagement

5.1 Case study 1: responding to demographic and industry changes in the LEB

The research found differences in how forecast changes in population and industry may play out depending on the sector and the region. In SA, it was generally perceived that some future NRM issues would be largely the same as those today. For example, land holders would still be focused on day-to-day survival but with the main difference being one of recognition: that NRM would be given a higher priority. By contrast, in Qld it was considered that climate change may place extra pressure on the region, and that global demographic trends are triggering increased population which may increase demand for natural resources in the LEB. In both regions, it was considered that the increase of mining and petroleum industries would bring a considerable increase in population to the region, but one with relatively little connection to the land and limited long-term commitment to the area. This would raise significant challenges for resource management and in particular for water resources; however, it could also bring advantages in terms of infrastructure.

The lack of reliable data on which to base projections was raised as a key concern in both regions, due to the impact this has on the ability to plan for future change. In both regions, it was thought that the tourism industry was likely to increase with improved infrastructure (due to mining), increasing accessibility and the influx of new people into the area. This was supported by the increasing trend for pastoralists to diversify income sources through tourism on properties, and the increasing presence of private conservation NGOs as land holders in the region.

Workshop participants from SAAL emphasised that successful engagement in their region currently requires a different approach to other regions due to the small, sparse population. Being seen as part of the community and developing strong relationships with the community was very important. This involved taking a personal approach: linking SAAL with community events and being seen as more than government representatives. An intrinsic part of this was having continuity of staff over the longer term to allow for these relationships to build. Perhaps one of the most challenging aspects of successful engagement raised was balancing the (nationally defined) outcomes and administrative requirements of the NHT with regionally specific community priorities and emerging issues.

A key finding was that greater flexibility was needed to maximise meaningful engagement and limit community disenfranchisement with the process. In many cases, government-defined time frames and outcomes of the program were often inappropriate for the needs of desert regions and therefore limited the success of engagement. It was suggested the governments need to place a greater degree of trust in regions to deliver programs and allow NRM Boards to address challenges without overly prescribing outputs in the funding process. This would allow the regions to deal with changing circumstances and emerging priorities without compromising goals for environmental outcomes. A degree of discretionary funds for regional NRM organisations would facilitate the ability to respond to community needs.
A crucial factor affecting current engagement that was raised in the DCQ workshop is how to successfully interact with government. Perhaps unsurprisingly, many features of good community engagement, such as developing strong relationships and understanding diverse perspectives, are equally important in the government sphere. Understanding the rationale and context for government policy and processes was seen as a key to negotiating meaningfully and avoid being stuck in an adversarial position. Maintaining a good relationship with government was seen to be important, and one way to do achieve this is through hosting visits from government representatives and building their understanding of the region and its NRM issues. While maintaining a strong relationship with government was important, it was also noted that standing up to government is important in some situations. Another success factor was to discuss issues without polarising positions.

In both Qld and SA, the factors influencing the successful engagement into the future were seen to be largely the same as those that operate in the present. The changes that were thought to be relevant were that future generations will probably be more aware and educated about the environment and NRM issues, making the focus of engagement a more elaborate building of knowledge and moving beyond introducing basic concepts of NRM. In addition, the importance of expanding partnerships and building relationships with private industry, research organisations and private conservation companies was emphasised. In terms of engaging with the policy environment, it was thought that there would be an increasingly complex operating context for regional bodies, which makes transparency more challenging. DCQ noted that their experience of engaging with Aboriginal communities is influencing how they approach engagement more broadly, now and into the future. For example, they noted the importance of allowing adequate time frames, communicating face to face and developing relationships and communicating in ways that are culturally appropriate.

The SAAL Board emphasised the need for a more tailored approach to engagement in the future through better defining and understanding who they were engaging with, why, and what the best mechanisms or approaches were to achieve this. They were already attempting to achieve this through the development of district groups, providing a forum for community concerns to be voiced to the Board. They also identified the need for clearer entry points to engage with Aboriginal communities in the future, along with the importance of understanding the priorities of Aboriginal communities.

The case study concluded that there was a widespread perception that the nature of the NRM engagement challenges in the LEB over the next 20 years or so are likely to be very similar to those of today. However, the intensity of those challenges is generally thought to be much greater than they are today. In considering the monitoring implications for this, aiming to adequately address current challenges may prove insufficient over time as engagement challenges intensify. The case study reinforced that effective management of remote regions requires respect for desert time lines, which was thought to be under-acknowledged by policy makers located exterior to the LEB. In terms of monitoring, this demonstrates the importance of considering multiple time scales. A crucial finding is that regional NRM groups in the LEB have very limited engagement with the mining and energy sectors, which reflects a dichotomy between, on the one hand, NRM and, on the other, mining and energy industries. This highlights the importance of self-assessment and monitoring of relationships to identify new opportunities with these stakeholders in the future.
5.2 Case study 2: A broker diagnostic for assessing local, regional and LEB-wide institutional arrangements for Aboriginal governance of dryland environments

The second case study involved developing a diagnostic for assessing Aboriginal environmental governance of dryland environments. Earlier phases of the project highlighted the importance of activities and support for individual ‘brokers’ employed by organisations to manage the ‘interface’ between communities and natural resource users and government agencies. This work also highlighted that Aboriginal participation in environmental programs continues to be a critical challenge and priority for many interface organisations, such as DCQ and SAAL regional natural resource management bodies.

The framework is referred to as a broker diagnostic. This reflects the importance of individual facilitators, leaders and community champions to broker the interface between Aboriginal communities and environmental programs and institutions. The framework proposes that these individuals can act as a valuable ‘litmus test’ to critically assess the support provided to Aboriginal communities to manage the Aboriginal and shared environments and resources of the LEB.

Brokers who are funded by government programs to manage the interface between Aboriginal communities, local and regional organisations and government agencies were chosen to take part in the case study. Interviewees were approached based on formal roles established by government environmental programs and informal roles chosen by Aboriginal communities. Their titles varied from ‘facilitator’ to ‘manager’ or ‘leader’. Each broker was asked questions to obtain their perspectives on their role and how it fitted with the principles outlined below.

Of the 33 informants, seven identified themselves as being of Aboriginal and Torres Strait Islander descent. When discussing this bias with those seven informants, some noted that this bias reflected a reality in the LEB. One Aboriginal facilitator interviewed succinctly outlined the dilemma: ‘Aboriginal leaders are busy being leaders for their own communities … there aren’t many left [who have the] time or skills needed to also work for the government mob’. At the time of writing, regional bodies operating in LEB approached for this study noted that facilitators who could broker their efforts with local Aboriginal communities in the region were absent or precariously engaged, and overwhelmingly needed. Even so, this is an important bias in the results presented by this preliminary assessment.

The broker diagnostic has been informed by research that has critically examined key drivers affecting sustainable development in dryland environments (Reynolds et al. 2007) and the emergence of regional integrated planning approaches to achieve sustainable development outcomes (e.g. Morrison et al. 2004, Lane & Robinson, in review). Of particular interest in this body of research are the assessments of Aboriginal participation in local and regional NRM programs in Australia (e.g. Robinson et al. 2005, Lane and Williams 2008); and the role of brokers in regional NRM planning and implementation (e.g. Fenton 2007).

This work was used to inform the following three components that underpin the broker diagnostic:

Component 1: Brokers and organisations understand the key contextual issues affecting Aboriginal environmental governance.

Component 2: Brokers have individual, Aboriginal community and organisational capabilities needed to respond to key issues affecting Aboriginal environmental governance.

Component 3: Aboriginal Knowledge is integrated into environmental planning and management.
A rapid application of this broker diagnostic was undertaken between late 2007 and early 2008 using the research approach summarised above. While the application of this broker diagnostic is preliminary at best, the analysis done to date does start to provide an assessment of the organisational support for Aboriginal environmental governance in this dryland macro-region of the LEB and is summarised in the table below.

Table 1: Summary of results from broker diagnostic

<table>
<thead>
<tr>
<th>Component</th>
<th>LEB findings</th>
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<tbody>
<tr>
<td>Brokers and organisations understand the key context issues affecting</td>
<td>varied</td>
</tr>
<tr>
<td>Aboriginal environmental governance.</td>
<td>Interviews suggest a strong bias towards Aboriginal participation in local NRM planning processes. LEB-wide arrangements have failed to take into account how broader planning decisions and outcomes can engage with Aboriginal people and accommodate the multiple outcomes that Aboriginal communities wish to achieve through NRM activities, partnerships and programs.</td>
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<tr>
<td>Brokers have individual, Aboriginal community and organisational</td>
<td>limited</td>
</tr>
<tr>
<td>capabilities needed to respond to key issues affecting Aboriginal</td>
<td>Local brokers felt they were doing their best to support Aboriginal community efforts to make</td>
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<tr>
<td>environmental governance.</td>
<td>sustainable NRM decisions and engage in partnerships to help them respond to issues affecting</td>
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<td></td>
<td>Aboriginal communities and lands.</td>
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<td></td>
<td>Brokers working at each level noted the lack of support provided by regional and LEB-wide</td>
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<td></td>
<td>organisations to support ‘vertical’ integration between local, regional and LEB-wide organisations and lack of ‘horizontal’ coordination between authorities working at the same decision-making level.</td>
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<td></td>
<td>As result brokerage efforts to respond to the multi-level dimensions of Aboriginal environmental governance is weak.</td>
</tr>
<tr>
<td>Aboriginal Knowledge is integrated into environmental planning and</td>
<td>limited</td>
</tr>
<tr>
<td>management.</td>
<td>Knowledge integration with Aboriginal people, experiences and epistemologies is a key challenge and need reported by many brokers. Most of the effort to date has focused on the local scale and some success has been reported on instrumental dimensions of Aboriginal Knowledge – i.e. bush tucker and its uses and interactive dimensions of Aboriginal Knowledge that can easily be used to inform other stakeholder practices (i.e. fire management strategies).</td>
</tr>
</tbody>
</table>

Brokers’ accounts and experiences show that partnerships seriously engaging Aboriginal people in environmental planning, management and review while maintaining the support from all other partners (Aboriginal, non-Aboriginal and government) are far from easy to achieve. Engagement strategies often fail to reflect or accommodate Aboriginal people’s motivations to enter into partnerships, which include efforts to improve the economic, social and physical health of Aboriginal people and build capacity in their communities (e.g. Wondolleck & Yaffee 2000). Issues of unequal power relations within partnership agreements have also been identified, limiting Aboriginal people’s ability to achieve mutually beneficial outcomes. Integration of Aboriginal knowledge into NRM priorities and decision-making can also be difficult and requires careful negotiation of appropriate protocols to enable equitable and appropriate sharing of knowledge with other stakeholders.

Results from the development and rapid application of the diagnostic provides regional NRM organisations with some insights into how to examine the current approach to integrate environmental management programs and activities with Aboriginal people and communities in the LEB. It is not intended to provide an ‘ideal’ solution for institutional arrangement design and activities. Rather, it is meant to support dialogue between local, regional and LEB-wide organisations and Aboriginal communities about how to best support Aboriginal people and their land management responsibilities in the LEB.

The diagnostic recognises the high reliance on brokers to achieve this integration and dissects the context and organisational arrangements that support their work. This helps to determine the degree to which these ‘interface nodes’ achieve the integration needed for effective environmental and natural resource management. Areas for further consideration and exploration would be:
• To critically examine the reliance on brokers as a mechanism for integration, and if these individuals are to be used how they can be supported more effectively.

• To examine how broker work and supporting organisational functions and activities can be managed in a more coordinated way to enable integration across and between scales of NRM decisions and activities.

• To examine how local, regional and LEB-wide integrated environmental management can better respond to drivers identified in this diagnostic.

6. Component 4: Monitoring framework for successful NRM engagement

This chapter first summarises the learnings from the monitoring and evaluation literature, as presented in Larson and Williams (2009). A conceptual framework for monitoring and evaluation of engagement (MEE) in remote regions is then proposed. This framework is based on the findings from the literature as well as learning from the case studies. It is recommended that the proposed conceptual framework should be tested with the on-ground interface agencies and refined as a next research step.

6.1 Learning from the literature for the LEB context

The very absence of monitoring in most participatory projects in the past has been identified as potentially the largest gap in methodological knowledge about engagement processes (Abbot & Guijt 1998, Guijt 1998, Buchy & Hoverman 2000, Lane 2005, Reddel & Woolcock 2004, Abelson & Gauvin 2006).

Four broad reasons as to why government might want to get the public engaged in a particular process can be summarised as follows (Lane 2005, Rosenstrom & Kyllonen 2007, Warburton et al. 2006):

1. fairness and improved governance
2. social learning and improved social capital
3. improved quality of delivery or service
4. improved competence and capacity building.

It is also important to acknowledge that there are two general reasons for monitoring: monitoring for auditing purposes, where a funding body requires that an implementing body or stakeholders monitor the engagement process and outputs in order to ensure compliance with the funding contracts; and monitoring for evaluation and learning, where the implementing body and stakeholders are interested in monitoring the quality of their actions and deliverables in order to learn and improve in the future.

What we monitor for in engagement will therefore fundamentally depend on the core reasons for the engagement. In recent years, there has been a notable shift towards: monitoring of learning (in communities and within organisations); applying of lessons; capacity or competence building; and joint actions to determine agreed outcomes (Mahanty et al. 2007). Reasons for engagement will play a large role in what is monitored, as well as in determining the level of engagement (Buchy & Hoverman 2000, Stalker Prokopy 2005).

Monitoring is a process and not a single action, and therefore should occur at different stages of the engagement process. Stages in monitoring can be summarised as monitoring of inputs, process, outputs, outcomes, trends and the unexpected (Bond et al. 2006, Cuthill 2003, Johnson 2004, MED 2004).

Several cautionary notes have been prominent on this subject. Most notably, there is a need to consider time frames; that is, distinguish the shorter- and longer-term changes. Also, several authors have

However, there is a general agreement that any monitoring system, engagement monitoring included, needs to be valid, relevant, specific, timely, reliable, sensitive, feasible and cost-effective (MED 2004, UNDP nd). Several ‘features of the system’ or ‘principles of good practice’ are proposed (Bond et al. 2006, Krick et al. 2005, MED 2004, Syme & Sadler 1994, UNDP n.d., Warburton et al. 2006), such as:

- The monitoring and evaluation system itself should be participatory and should fully involve different project stakeholder groups and staff throughout the system stages. The system should be user friendly and culturally sensitive.
- Criteria to demonstrate whether objectives are met should be agreed at the outset by all stakeholder groups concerned. The criteria should be well thought through, focus on both short-term and long-term views, be both qualitative and quantitative, consider wider context of external drivers, etc.
- The system should be planned for all stages of engagement and should allow for changes in process and methods if needed. Monitoring should be treated as an integral part of the projects, and evaluations should occur over time as a continuous effort.
- Plans should include the purpose, the process, as well as responsibilities, resources, methodologies, etc.
- Findings should be recorded, communicated and used as a basis for future improvements. Principles of adaptive management should be followed.
- Effort should be balanced in terms of costs versus benefits and should concentrate on provision of useful information. The key achievement is to collect and analyse a minimum but sufficient amount of data and information for adaptive learning.

NRM bodies are likely to be familiar with and adhere to the principles of best practice as a part of their overall monitoring, evaluation, reporting and improvement (MERI) system.

Several references stress that there is no ‘one size fits all’ generic approach to monitoring and evaluation of engagement processes, nor there is a generic set of indicators (MED 2004, Warburton 2006, Krick et al. 2005, UNDP n.d., Buchy & Race 2001). Rather, the above good practice principles should be used in the development of the project-specific engagement process and monitoring and evaluation plan. Specific priorities for monitoring need to be well thought about and set. The plan needs to target specific interests at a specific scale, and needs to monitor a specific stage of the activities. In addition, allowing for the specific circumstances of the organisation related to human, financial and other capitals is crucial for the creation of feasible plans.

6.2 Monitoring engagement in remote regions

Generic principles of good practice for monitoring and evaluation of engagement (MEE) have been summarised in the previous section. However, several other aspects of planning should be taken into account when planning for engagement in NRM in remote regions.

Figure 9 provides a conceptual framework developed to guide the MEE planning process for NRM in remote regions. The framework proposes to follow the principles of ‘Good practices’, but also to take into account the variety of interests of different stakeholders and the specificities of desert conditions (Stafford Smith 2008). The principles of good practices, stakeholder interests and desert drivers need to be viewed in the context of the three-dimensional system that they reside within: the time scale; the geographic scale; and the societal/institutional scale. Only by taking all of these into account can we attempt to create a tailor-made, efficient and effective engagement monitoring plan.
Thus, successful monitoring of engagement needs to take into account principles of good monitoring practice, the variety of stakeholder interests and the desert drivers, and to address them at the right geographic, institutional and time scale.

6.2.1 How to approach MEE?
Ways in which organisations can address their monitoring needs are many. The conceptual framework presented in Figure 9 above provides a reminder of the issues that should be thought about and taken into account when devising a plan for monitoring of engagement. General principles for monitoring, as discussed in the previous section, should also be followed. The key objective is to minimise additional effort, that is additional financial capital and staff effort required to MEE, as well as to minimise additional burden on the stakeholders, who will often be ultimate ‘judges’ of the progress.

Therefore, every attempt should be made to maximise the use of existing monitoring and evaluation plans and data collection exercises (Figure 10). Any additional monitoring and evaluation should be carefully assessed against the capacity required for the additional efforts. MEE action lists and plans should not be developed before a ‘reality check’ is performed to confirm that the resources needed for additional activities indeed exist (Figure 10). Recording and reporting to the stakeholders should be undertaken, and the information thus collated should be used to evaluate the existing engagement and learn from both the shortcomings and success stories. Learning from the historic experiences should always be applied before further actions take place (Figure 10).
6.2.2 What to monitor and evaluate? ‘Situation analysis’
As discussed previously, the organisation can monitor and evaluate inputs required for the activities to be completed, the process and outputs of the activities as set in the plans or the outcomes of actions and trends they create. In addition, the organisation can also monitor for the unexpected, that is, unplanned things that occur during the plan’s cycle. Most importantly, the organisation needs to be able to learn from the MEE, and as a result improve its performance in the future.

**Shorter term**

<table>
<thead>
<tr>
<th>Input</th>
<th>Process</th>
<th>Output</th>
<th>Outcome</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be determined</td>
<td>Think of long-term results</td>
<td>Think of long-term results</td>
<td>Be adaptive</td>
<td></td>
</tr>
<tr>
<td>Access resources when you can</td>
<td>Take advantage of opportunities</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Recognise desert champions</td>
<td>Build and maintain trust</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desert talk</td>
<td>Build and maintain trust</td>
<td></td>
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<tr>
<td>Recognise different roles you play</td>
<td>Develop community ownership</td>
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<tr>
<td>Maintain transparency</td>
<td>Use the partnerships effectively</td>
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<tr>
<td>Learn how the system works</td>
<td>Be adaptive</td>
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</tbody>
</table>

**Longer term**

Different tools for success, or ‘success factors’, as proposed in this report, will have their key importance at different stages of the MEE process (Figure 11). We propose that interface agencies could monitor some of the tools for success and evaluate their performance and progress around them. Table 2 provides ideas on which success factor could be monitored, and how, at each stage of the activities cycle. Examples of methods that can be used for MEE are also listed.
### Table 2: Success factors that could be monitored at various stages of the MEE cycle, with examples of monitoring methods that could be used

<table>
<thead>
<tr>
<th>Stage</th>
<th>What to monitor</th>
<th>Examples of how to monitor</th>
<th>When?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inputs</td>
<td>Your stakeholders and champions:</td>
<td>Create a table on ‘Enablers’ (what would you need to happen to enable you to complete the planned activity?). Select a few of what you consider key enablers and monitor and record what happens with them:</td>
<td>Throughout the process</td>
</tr>
<tr>
<td></td>
<td>- Have we defined our critical engagement audiences? Who are they?</td>
<td>- In principle?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Which are engaged? Who is disengaged? Who is being overlooked?</td>
<td>- In practice (e.g. financially)?</td>
<td></td>
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<tr>
<td></td>
<td>- Who are our key champions? Are we looking after them?</td>
<td>Signal of success: To what level of engagement?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Use of existing knowledge;</td>
<td>1. Off the radar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Building and maintaining trust:</td>
<td>2. In discussion</td>
<td></td>
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<tr>
<td></td>
<td>- Are we incorporating local knowledge to decision making?</td>
<td>3. Contributing to the agenda and sharing decision making</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Are we incorporating Aboriginal knowledge to decision making?</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>- Are we using our institutional and corporate knowledge?</td>
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<tr>
<td></td>
<td>- Working strategically within the NRM System:</td>
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<tr>
<td></td>
<td>- Are we being strategic?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Are we in line with community priorities?</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>- Are we in line with government priorities?</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>- Are we supporting Aboriginal brokers?</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>- Opportunistic resourcing:</td>
<td></td>
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<tr>
<td></td>
<td>- Are we looking ‘out of the box’ for resources (human, financial, operational, etc) and partners?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process and outputs</td>
<td>Community ownership:</td>
<td>Create a list of the activities and outputs you want to monitor. Select a few that you consider key and monitor and record what happens:</td>
<td>At the time of the activity or soon after output was produced</td>
</tr>
<tr>
<td></td>
<td>- Are we being listened to?</td>
<td>- Did the activity/output occur?</td>
<td></td>
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<tr>
<td></td>
<td>- Long-term results:</td>
<td>- How was it received? What did your stakeholders think?</td>
<td></td>
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<tr>
<td></td>
<td>- How well are we considering different time frames?</td>
<td>Staff can monitor and evaluate using activities journals; stakeholders can be approached through surveys.</td>
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<tr>
<td></td>
<td>- Project time frames (months)</td>
<td>Signal of success: To what level of engagement?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Funding time frames (years)</td>
<td>1. Off the radar</td>
<td></td>
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<tr>
<td></td>
<td>- Desert time frames (decades)</td>
<td>2. In discussion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Understanding of different roles we play and effective partnering:</td>
<td>3. Contributing to the agenda and sharing decision making</td>
<td></td>
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<td></td>
<td>- Working strategically within the NRM System:</td>
<td></td>
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<tr>
<td></td>
<td>- Are we seen by the community as ‘just another arm of government’?</td>
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<td></td>
<td>- Are we seen by the government as credible partners?</td>
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<td></td>
<td>- Desert talk:</td>
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<td></td>
<td>- Are we using the technology as best as we can?</td>
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<td></td>
<td>- Are we sharing with our stakeholders as much as we should?</td>
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<td></td>
<td>- Are we taking the opportunity of community events to meet with our</td>
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<tr>
<td></td>
<td>stakeholders?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage</td>
<td>What to monitor?</td>
<td>Examples of how to monitor</td>
<td>When?</td>
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<tr>
<td>-------</td>
<td>-----------------</td>
<td>-----------------------------</td>
<td>-------</td>
</tr>
</tbody>
</table>
| Outcome | Adapting and thinking of long-term results:  
- Are we learning?  
- Are we adapting in accordance with our goals?  
- Are the goals being updated?  
- Is it helping?  
- Are we effecting long-term drivers of change?  
- Do we know how to respond?  
- Transparency:  
  - Are we informing our stakeholders and partners of our learning and changes we want to make as a result?  
- Determination:  
  - Are we managing to maintain the enthusiasm of our stakeholders, partners and champions?  
  - Are we taking enough initiative to achieve our goals? | Discuss planned versus real using ‘Gap identification’; OR  
Discuss most important outcomes OR  
Rate your outcome against best and worst case scenarios you have developed  
Compare objectives as set in operational plans with what is happening on the ground | Outcomes should be monitored on a long-term scale, preferably annually. |
| Trends | Adapting:  
- Which way are we heading?  
- Building and maintaining trust:  
  - Do our stakeholders trust us?  
  - What is the % of people who take up our advice?  
  - Using the partnerships effectively:  
  - Are we managing to maintain the enthusiasm of our stakeholders, partners and champions?  
  - Long-term results:  
  - Are we just going for easy and ‘preaching to the converted’ or are we addressing complex challenges with disengaged stakeholders? | Assess the change against pre-set ‘Signals of success’; or use stakeholder surveys.  
Signals of success:  
1. Easy runs: impact points through mainstream programs  
2. Using easy runs as a catalyst for addressing bigger issues  
3. Tackling complex challenges: engaging with new types of people, addressing emerging problems | Trends should be monitored on a long-term scale, preferably annually. |
| Unexpected | Adapting:  
- Taking advantage of unexpected opportunities:  
- Did anything happen that we did not foresee but had significant impact on:  
  - our organisation?  
  - our engagement?  
  - our stakeholders? | Use journals and/or stakeholder surveys.  
Record the unexpected when it happens; have at least an annual ‘check’ of different operational aspects and stakeholder experiences to ensure you have not missed something. | Annually |
7. Conclusion

The ‘People, communities and economies of the Lake Eyre Basin’ has been an innovative project that has brought together four distinct elements into an integrated research program, combining social, economic and resource profiles, a toolkit of success factors for NRM organisations focusing on the importance of successful engagement, detailed case studies of individual and organisational attributes relevant to successful NRM and a monitoring framework to facilitate learning among NRM organisations. As a highly participatory project, the research team have been guided by and engaged with a steering committee of leaders from the spheres of community, science and policy, including the directors of crucial NRM regional organisations and key representatives of the LEB Community Advisory Committee and LEB Scientific Advisory Panel. This highly supportive environment has greatly assisted the research team to develop and implement a project that has been scientifically and practically relevant.

From the first component of the project, it was clear that the administrative setting in the LEB is unique, straddling four jurisdictions and four regional management authorities. Except for Qld, regional management arrangements extend beyond the borders of the LEB. Lack of alignment in the other boundaries such as catchment management, conservation management and Local and State Government boundaries presents a challenge for achieving coordinated and integrated natural resource management. Within this context, the social, economic and resource profile provides a stand-alone overview of this socially complex and ecologically unique basin. As a snapshot of the region, the residents of the LEB and the LEB Ministerial Forum are likely to find great value in this profile. To build on this investment into understanding this region, repeating the profile on an iterative basis in the future is an option.

Successful NRM outcomes in the LEB require successful engagement processes. Understanding the ‘success factors’ of engagement is of crucial importance for NRM regional bodies and all organisations at the interface between formal governance processes and community action. It is also important to emphasise that engagement is as much about interfacing with governments as it is with supporting on-ground community action. The principles and tools presented in the success factors report were identified, distilled and integrated from a combination of literature review and interviews with both Australian and State Government liaison officers and community residents of the LEB.

Some of the tools and principles for NRM in the LEB are location specific. These include respecting desert time frames and being opportunistic when scarce resources and circumstances arise infrequently. Other success factors are generic to a wide range of management contexts, such as building community ownership, communicating well and maintaining transparency. However, even these are manifested differently in remote areas, where communication is complicated by distance and sparse populations. Maintaining credible staff and avoiding community burnout are major issues for NRM in general, and this research demonstrated acute reliance on particular individuals throughout the LEB who take on multiple roles. It is crucial for NRM agencies to recognise such constraints and to engage with regional NRM organisations in remote areas in a way that is mindful of the pressures they are under, being conducive towards resolving these where possible.

The case studies presented here were developed based on the understanding generated in component 1 and tied to the ‘success factors’ presented in component 2. With oversight from the project steering committee and interest from the regional NRM interface organisations, they took up two important and practical aspects of the social dimensions of successful NRM at the individual and organisational scales in the LEB.

One case study involved discussing industry and demographic changes with NRM regional organisations through workshops. The research investigated the similarities and differences in how forecast changes may play out depending on the sector and the region. One of the key findings of this was that, from an engagement point of view, the challenges for NRM organisations are likely to be broadly similar in
the future, though more intense in some cases as more people move to the LEB temporarily to work in expanding industries such as minerals and energy production. Though these people may reduce the effects of under population, they may not share the same level of commitment to the unique social character and ecology of the region that is held by current residents. A further conclusion was that NRM bodies have limited interaction with the mining and tourism sectors and that opportunities for greater collaboration exist with these sectors.

The other case study emphasised the importance of individual facilitators, leaders and community champions to broker the interface between Aboriginal communities and environmental programs and institutions. It proposed a diagnostic tool to critically assess the support provided to Aboriginal communities to manage the Aboriginal and shared environments and resources of the LEB. The case provided a new approach to recognising and supporting Aboriginal participation in environmental management programs.

The fourth and final component of the research has delivered a monitoring framework summarised in this report, and expanded upon in a separate volume. It has been developed building on the strength of the former research components and informed by a detailed national and international literature review that was too broad to present in this synthesis volume.

The monitoring framework instils monitoring components drawing on the success factors in relation to a time line from short-term to long-term trends. The framework presents a practical approach to what, when and how to monitor the characteristics of regional NRM organisations that characterise successful NRM interface organisation functioning in the LEB.
8. References


Desert Knowledge CRC. People, communities and economies of the Lake Eyre Basin.

Ch 1: Synthesis of the ‘People, communities and economies of the Lake Eyre Basin’ project pp. 1–40


SKM [Sinclair Knight Mertz]. 2002. *Aboriginal Language Groups in Australia*. Australian Institute of Aboriginal and Torres Strait Islander Studies (AITSIS) and SKM, Canberra.


Appendix 1: Tools for successful NRM engagement

1. Work strategically in the system
Successful NRM engagement relies on maintaining community trust while carefully navigating governance processes.

Learn how the system works
- Understand the rules and cultures and know how and when to use them.
- Ask about the meaning between the lines when policy is ambiguous.
- Be strategic: look for the right mix of regional independence and fitting in with federal and state government priorities.

Be adaptive
- Over time community perspectives and priorities change.
- Adapt to changing governments and processes.

Use partnerships effectively
- Recognise the value of long-term collaborations.
- Link with agencies, research and industry.
- Meaningful inputs require meaningful outputs.

Maintain transparency
- Let the public know about decisions taken.
- Publicise outcomes effectively e.g. online.
- Maintain necessary documentation.
- Keep people informed: knowledge is power.

2. People play multiple roles in sparse populations

Recognise the different roles you play
- Interface organisations have different roles, from delivering government programs to eliciting community views.
- Wear the right hat for the job.

Develop community ownership
- If possible, avoid acting just as ‘another arm of government’.
- Listen to community perspectives and be mindful of community concerns.
- Engage community sectors in meaningful decisions that affect their interests.

Build and maintain trust
- Acknowledge, accept and respect different perspectives and interests.
- Negotiate fairly and openly.

Desert talk
- Face-to-face communication is best but expensive across large distances.
- Be flexible with technology when face to face is not an option.
- Plan to make communication inclusive.

3. Recognise desert champions
Remote NRM depends on key individuals. Recognising and supporting these people is crucial to successful engagement.

- Individuals can make or break NRM projects in remote regions.
- Build and support community advocates.
- Long-term staff are more likely to have the experience, respect and credibility.
- Encourage people who are good on the ground, natural communicators.

4. Take advantage of opportunities
Opportunities can be unpredictable and infrequent in remote regions. Like with desert rain, take advantage of circumstances when they come.

Access resources when you can
- Look out for changes in funding environments.
- Take advantage of visits – a friendly talk can make a big difference with the right people.

5. Focus on desert time frames
Thinking ahead and maintaining commitment are crucial to long-term survival.

Think of long-term results from short-term initiatives.
- Work towards an agreed vision.
- Plan for future opportunities.
- Call in a favour when you need to.

Be determined
- In remote regions, maintaining enthusiasm and commitment is crucial.
- Initiative and perseverance help get access to information and resources.