

Arid lands, arid management: Community engagement, communities of practice and environmental governance in the Lake Eyre-Kati Thanda¹

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Abstract

Management of arid lands in South Australia is an important yet often contentious topic amongst the multiple stakeholders that live within it. The interplay between land management and people is intertwined, with people being affected by and influencing its outcomes. Ensuring effective community engagement is fundamental to ensuring the success of environmental management endeavours. This paper explores the institutional, policy and community engagement structures in place within one particular arid region of South Australia – Lake Eyre – and its implications for environmental governance. It concludes with a suggestion that utilising the notion of communities of practice within the region is one way forward for future community engagement.

Introduction

South Australia has the reputation of being the driest state in the driest continent, but despite the arid image this evokes, it is in fact a region of great beauty and high biodiversity. The arid lands of South Australia are constituted by a variety of habitats, within which many communities reside. As with most environmental regions, the management of these lands includes maintaining ecosystem resilience and value while addressing the impacts of grazing, development, mining and human settlements. International issues like climate change, national issues such as salinity, regional issues such as water allocation and local scale issues such as feral weed and animal management and fencing need resolution. Unsurprisingly, management of these lands is an important yet often contentious topic amongst the multiple stakeholders that live within it. More than most regions, the interplay between land management and people is intertwined, with people being affected by and influencing its outcomes. Ensuring effective community engagement then is often fundamental to ensuring the success of environmental management endeavours yet they too can falter under the dry gaze of policy makers. This paper presents the outputs of a small project that explored the types of and appropriateness of community engagement within one particular arid region of South Australia – Lake Eyre-Kati Thanda – and its implications for environmental governance. The project used a mixed methods approach to analyse the institutional, policy and community engagement structures in place over the region. Results are based on a review of key policy and community engagement documents, an institutional survey and thematic analysis with the aim of establishing the efficacy of community engagement in practice. I argue that this analysis shows that community engagement practice and discourse to date has focussed on NRM at the expense of the other communities and discourses within the region. Identity and scale, as well as the existence of multiple and diverse communities within the region, are additional key drivers influencing the success of community engagement. These issues need reframing within a collaborative environmental governance framework. The possibility of investing in communities of

practice within the region is advanced as one way of enhancing inclusive governance in practice.

Community engagement and environmental governance

Community engagement *per se* is an interesting endeavour but depending on context, has different end points. The last decade in Australia has seen the evolution of national processes of environmental governance, and initiatives such as the National Action Plan on Salinity (NAPS) or the Natural Heritage Trust (NHT) I and II, which at their core embrace the notion of decentralised governance. The subsequent establishment of natural resource management bodies – 56 in total across Australia – provided the institutional framework for States and Territories to implement the recommendations and projects under NHT and the NAPS. Community engagement in this context is central to effective environmental governance, particularly in assisting processes of decentralisation. As stated by the Natural Resource Management Ministerial Council (Queensland Government 2004, p. 2):

Effective participation by all key stakeholders is required to ensure that plans are based on a community process, are accurate, comprehensive, well coordinated and able to be implemented. Indigenous communities, local government, state agencies, resource managers, industry and communities, academic/scientific community and environmental groups should be involved where relevant. Stakeholder's roles, responsibilities and capacity to implement actions to achieve targets will be identified.

To assist the implementation of community engagement across the nation a wide suite of models and principles have been used, from the 'inform – empower' spectrum of engagement advocated by the International Association for Public Participation (IAP2) to the community engagement toolkit advance by Aslin and Brown (2004). The literature and government web sites are replete with lists of principles for community engagement, and ideas about/for participatory practice (Ife 2002; Hemmati 2001; Loader *et al.* 2001; Kelly 2000; Atkisson 1999; Chambers 1998; Fisher and Ury 1992).

Experience shows that many factors drive the relative effectiveness and success of community engagement in practice. Social capital, levels of trust, distribution of power, existence and application of knowledge systems, and levels of accountability, scale, and time have all been shown to play definitive roles. An illustrative example is Gatseyer *et al's* (2002) review of 50 case studies of community involvement in decision making about water quality, which showed that social capital was a key driver not only for enacting community action but influenced the way planning was conducted. As such, some elements that led to successful community action were identified and included context specificity, diverse perspectives, collective vision, neutral facilitators, conditions for group inquiry, participatory accountability, monitoring systems, processes for sustaining systematic learning and evaluation of community perceptions regarding the success – or not – of the initiative.

Context is also crucial. Case based literature highlights the importance of place (Kenyon and Black 2001) while other studies show that negotiating relevant processes and engagement strategies on a case by case basis enhances the likelihood

of success (Shortall 2004). Community ownership and involvement in the decision making processes is hugely influential; inadequate participation by the community in deciding where to place wind turbines in South Australia created significant planning and policy challenges (Hindmarsh 2010).

The Case Study: Lake Eyre-Kati Thanda, Australia

The Lake Eyre-Kati Thanda region is an illustrative example when considering the role played by community engagement in progressing environmental governance. As a large, remote, sparsely populated yet highly productive and environmentally and culturally significant region that spans four States and Territories in Australia, it attracts much policy attention (Herr *et al.* 2009).

Further, as a region Lake Eyre-Kati Thanda is unique. It is Australia's largest salt lake, located 647 km north east of Adelaide in the state of South Australia and spans Queensland, the Northern Territory, South Australia, and New South Wales (Fig. 1). It is popularly described as comprising between one fifth to one sixth of the Australian continent. The Lake Eyre-Kati Thanda region is a drainage basin of over 1.2 million square kilometres and at 15.2 metres below sea level in its eastern perimeter is Australia's lowest point. The Basin consists of two lakes: Lake Eyre North and Lake Eyre South, both of which are connected by the Goyder Channel (AALNRM 2007). The region experiences little rain, and floods on average only four times a century; although between 2006–11 there have been many more rain events than usual. Named after the English explorer Edward John Eyre, the region is also the traditional land for the Arabunna, the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands, and other Indigenous peoples who have inhabited the area for thousands of years. Today, there are about 57,000 people living in the area working in pastoralism, tourism, mining and petroleum; as well as township based work such as retail, education, medical and other services.

Institutionally, the region is subject to the direction of the *Lake Eyre Basin Intergovernmental Agreement* (LEBIA) (Australian Government 2000, p. 1) which was signed by the Australian, Queensland and South Australian governments in 2000 and the Northern Territory in 2004. This agreement aims to 'develop or adopt policies and strategies about water and related natural resources in the Basin to avoid or eliminate, so far as reasonably practicable cross-border impacts'. The LEBIA further outlines the series of commitments made by each signatory, and the ways in which the environmental, social, cultural and economic values of the region are to be protected and maintained. The agreement also formalises the establishment of a Ministerial Forum as well as the formation of the Scientific Advisory Committee (SAC) and the Community Advisory Committee (CAC). This agreement is legislatively endorsed by each State and Territory which enhances its credibility and force in practice. The *Natural Heritage Trust of Australia Act 1997*, the *National Action Plan for Salinity and Water Quality 2000* and the *Native Title Act 1993* are the key acts that provide the main legislative framework guiding activity in the region.

Management of the region is dominated by a number of State based institutions, most notably the (i) South Australian Arid Lands Natural Resources Management (SAAL NRM) Board, (ii) Western Catchment Management Authority in NSW, (iii)

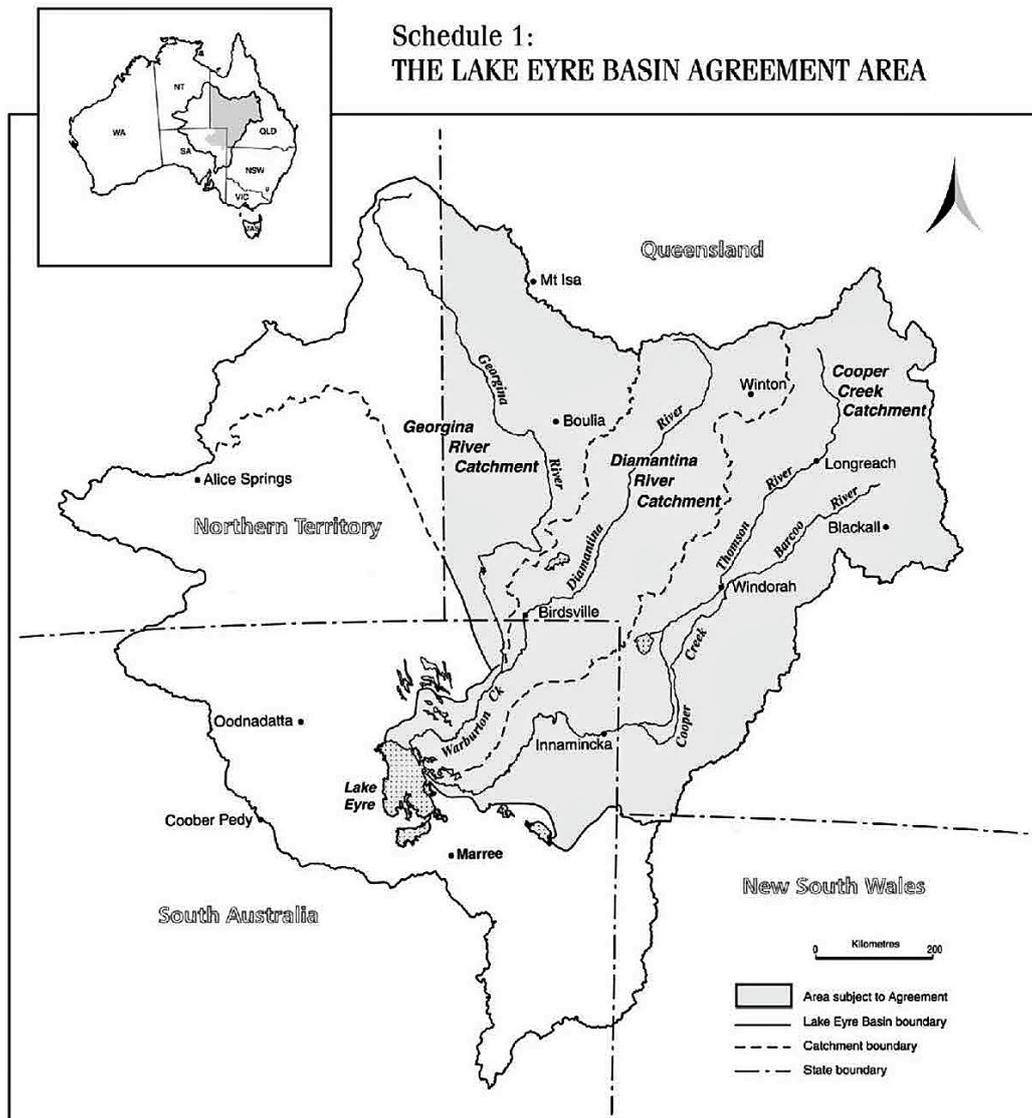


Figure 1: The Lake Eyre-Kati Thanda Basin

Desert Channels Qld Inc. in Queensland (DCQ) and (iv) the Northern Territory Natural Resources Management Board (Measham *et al.* 2009a). These all operate within NRM regions, all which share the following (Larson 2009): a 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 population, sparse populations resulting in quantitatively low human capital, and large physical areas under administration by a single NRM board.

Community Engagement, environmental governance and the Lake Eyre-Kati Thanda Basin

There are many opportunities for the community to get involved in decision making within the Lake Eyre-Kati Thanda region. Analysis of community engagement in the Basin (summed up in Table 1) highlights that engagement has largely been in three areas: (i) via interface organisations such as the different NRM groups and bodies and the on ground personnel employed within them, (ii) via extension and on ground showcase programs such as the Ecosystem Management Understanding (EMU) program, fencing and feral control programs, and (iii) via information dissemination, such as the biennial Lake Eyre Conference and cultural engagement activities. On the surface, the existence of these three fora for conducting community engagement indicate commitment to the community by government and industry and multiple opportunities for engagement across the region.

Table 1: Overview of institutions operating in the Lake Eyre-Kati Thanda Region relevant to community engagement and management

Body/Program	Role/Mandate
Lake Eyre Basin (LEB) Ministerial Forum	The Ministerial Forum was established under the Lake Eyre Basin Intergovernmental Agreement, signed by the Commonwealth, Queensland and South Australian Governments in 2000 and joined by the Northern Territory Government in June 2004. This Forum meets once a year and its role is to implement the Lake Eyre Basin Agreement, to develop policies or strategies relevant to management of the Lake Eyre, and to adopt State or Territory management plans consistent with the Lake Eyre Basin Intergovernmental Agreement and others.
Community Advisory Committee (CAC)	The CAC's role is to provide the LEB and other fora with feedback from the community about the decisions and activities of the LEB Forum and general issues relating to management of the Basin. The CAC comprises representatives from pastoral, agricultural, Aboriginal, mining, petroleum, conservation and tourism interests.

LEB Scientific Advisory Panel	The SAC provides technical and scientific advice to the Lake Eyre Basin Ministerial Forum about the ongoing environmental management and monitoring of water and related environmental resources. It also advises on knowledge gaps, and suggest future research that will assist ongoing management of the LEB, as well as develop strategies and policies that are relevant. For example, the SAC played a key role in the Lake Eyre Basin Rivers Assessment.
Lake Eyre Basin Knowledge Strategy	This strategy provides information for government, and an overview of the knowledge already available while giving advice on what knowledge is needed in order to assist the LEB SAC (Scientific Advisory Panel) and LEB Ministerial Forum answer key management and related questions/ issues.
Lake Eyre-Kati Thanda Aboriginal Forums	A number of Aboriginal Forums are held in the Lake Eyre-Kati Thanda region and are one of the ways that the requirements in the Lake Eyre Basin Agreement are met. The agreement requires that Indigenous interests are appropriately represented in the development of other policies and strategies for the Basin. For example, the 4th LEB Aboriginal Forum, held in 2011 in Tibooburra, New South Wales, was attended by nearly 80 people from across the Basin.
Lake Eyre Basin Biennial Conference	This is a conference that is run under the terms of the LEB Ministerial Agreement, and which enables all members of all the Lake Eyre-Kati Thanda fora and interested groups and individuals to discuss/share knowledge and experiences about key issues of concern and the sustainable management of the Basin. It is held biennially.
Pastoral Board	The Pastoral Board is responsible for the administration of the Pastoral Land Management and Conservation Act 1989. The Board provides advice to the Minister for Environment and Conservation on the policies that should govern the administration of pastoral land

Aboriginal Lands Trust (ALT)	Established by the <i>Aboriginal Affairs Planning Authority Act 1972</i> Department of Indigenous Affairs. The ALT administers lands held historically by the Native Welfare Department and a number of other State Government agencies. It also oversees strategic land acquisitions and provides advice to the Minister on Aboriginal affairs. Currently the ALT is landholder of roughly 27 million hectares or 11% of the State's land mass and this includes reserve, leasehold and freehold tenures. Most of these lands are meant to be used or managed for 'the use and benefit of Aboriginal inhabitants'.
The South Australia Arid Lands NRM Board	This Board's scope is over 50% of South Australia. It works in conjunction with local stakeholders to deliver projects relating to water, feral and threatened species management, and implement sustainability programs.
WaterSmart Pastoral Production	The WaterSmart Pastoral Production™ Project is a project that involves pastoralists in developing their skills and knowledge pertinent to water and stock management. Project activities include workshops, field days and trial display sites, new and innovative stock water management technologies and stock management practices. There are five case study demonstration sites addressing a range of grazing techniques and environments throughout South Australia, Northern Territory and Queensland.
NRM Community action grants	This is a funding program that enables community groups to apply for State government funding and establish local land care, coast care and water care projects.

Ecosystem Management Understanding (EMU) Projects (Walter and Pringle 2010)	The Ecosystem Management Understanding Project is one of the projects being trialled by the South Australian Arid Lands Natural Resources Management Board. A pilot project was implemented by the Marla-Oodnadatta Natural Resources Management District Group. The aim of the project is to incorporate pastoralist experience and knowledge with scientific expertise; and ‘nurture pastoralists’ skills to read landscape processes, condition and trend so they can easily apply this information to daily management practices. It is a way of working with natural processes rather than against them (‘fitting in with’, rather than ‘fighting’ them)’ (Walter and Pringle 2010).
Dingo management	This is a project across the LEB region that provides training in 1080 baiting and assisting with baiting programs.
Partnerships	There are also a number of partnerships in place across the LEB. The below provides a few examples only, but they are of interest as they highlight relationship building within and between communities in the region. <i>Example 1: Iga Warta community and SA Arid Lands NRM revegetation project.</i> The aim of this project is to restore Iga (native orange), Uti (Quandong) and Udlura (Native sandalwood) and to propagate and plant native seeds in the area, establish fencing against rabbits, and feral animal training for community members. <i>Example 2: Umoona Aboriginal Community and Landcare.</i> This project has involved fence erection around the Umoona Tree site which is significant to the community.
Desert Knowledge Australia Linked Business Networks Project (Taylor 2010)	This project aims to build small business capacity by creating mentoring networks to develop skills and build critical mass across large regions and borders. The project utilises arrange of communication technologies and connects business across arid lands.

Formal evaluations of and reflections on these fora by the Desert Knowledge CRC and CSIRO (Larson and Williams 2009; Measham, Williams and Larson 2009; Measham *et al.* 2009a and 2009b) highlighted that these mechanisms could be developed and strengthened. This review found that stakeholders perceived that the most successful engagement activities included those that: (i) promoted good stories about Basin land managers, (ii) supported key events and forums, (iii) promoted key assets to mainstream and natural resource management circles, and

(iv) promoted visual extension activities such as the production of maps like the 'Heart of Australia' LEB map and the Aboriginal map for the Basin. This study also found that the tools for successful NRM engagement in the Basin included instances where (i) actors worked strategically in the system, (ii) it was recognised people play multiple roles in sparse populations, (iii) the role of desert champions was recognised, (iv) opportunities were taken advantage of and where (v) there was an appropriate focus on desert time frames. The study also demonstrated that the intensity of the challenges to stakeholder engagement will increase over time and that community time lines need respecting, and not forced to accommodate policy maker's deadlines.

While these are important points, my analysis highlights that there are other factors that equally drive and influence how engagement occurs and that need addressing to advance environmental governance in the region as a whole. These include the dominance of NRM discourse, and the influence of identity and scale.

1. NRM is the main discursive frame

Firstly, analysis demonstrates that community engagement in the region largely occurs within the discursive frame of NRM, and tends to preference/target Indigenous groups and pastoralists. As Table 1 highlights all processes of and institutions/programs concerned with implementing forms of engagement are framed by and interpreted as NRM in some way. A Google, Scopus and other data base search using a combination of the terms 'community engagement, Lake Eyre, arid lands, Australia' consistently refer to or cite NRM processes and programs only. As such, community engagement in the region does not concern or focus in on the other sectors and stakeholders (i.e. tourism, mining, retail sectors, etc.) within the region, unless it also concerns NRM or the progression of NRM processes. This is not in and of itself a negative, but it does curtail the actual involvement of the multiple communities with vested interests in the region. For example, the science and environmental non government (ENGO) community both have third party and vested interests in the management and ongoing protection of the Lake Eyre-Kati Thanda. Nonetheless, while these groups are offered opportunity to participate via the CAC and SAC, in reality much engagement in practice is targeted to on the ground activity. Secondly, these groups effectively only participate within the discursive frame of NRM. There are multiple other discourses about the environment and science which can offer something to ongoing environmental governance of the Basin which are effectively precluded by the dominance of NRM. Further, the dominance of NRM as a discourse has a concomitant effect via employing modes of community engagement pertinent to the NRM Framework. Whelan and Oliver (2004) query whether this actually facilitates community engagement as a means of developing conservation strategies or whether that very engagement ends up blocking other conservation options? They also note that ENGOs have in fact been rejecting these conventional forms of NRM engagement for what they call 'constructive confrontation', finding that such engagement is not actually enhancing collaborative environmental strategies – and in being implemented over long time frames effectively mean that 'community engagement can be seen as a process of attrition whereby those left standing exert greatest influence' (Whelan and Oliver 2004, p. 10). Further, other communities of interest – such as the mining industry – end up operating outside of NRM processes, even when they are implementing their

own engagement in their own constituencies. This is an important factor because it underscores the fact that the potential for integrated engagement and linking of the diversity of social and economic factors with the environmental agenda is not necessarily occurring in the Basin. It also calls into question how external actors, i.e. those living outside the basin but nonetheless interested in it, can maintain a presence, and become part of the 'engaged' community.

The discursive dominance in NRM moreover not only constrains the potential for community engagement in the Lake Eyre-Kati Thanda but pre ordains to some degree the forms of knowledge and what types of power is prioritised in this region. This discursive frame moreover makes other knowledge systems invisible or less powerful. This includes Indigenous knowledge systems, as well as the local knowledge held within the region by other stakeholders including residents, and those within the mining, tourism, health, and many other sectors.

The importance of discourse as a factor undermining or driving environmental governance cannot be under-estimated. It represents social practice, how people perceive social power and highlights the forms of knowledge operating in any sphere. As Howitt (2001) notes in a discussion on the importance of understanding language in order to better inform management:

Language reflects and constructs power. Our language renders invisible many things given importance by other people. And in the contemporary world of industrial resource management, the invisible is generally considered unimportant. Dominant economic and scientific epistemologies, or patterns of thinking about the world, thus render the concerns and aspirations of many people both invisible and unimportant. In the process of managing resources, ostensibly for the betterment of humanity, resource managers quite literally turn the world upside down (Howitt 2001, p. 11).

Discourse analysis of how Indigenous people and marine managers perceive and construct planning and management in environmental practice shows that different discursive frames significantly affected management outcomes (Nurse-Bray 2009). Evans *et al.* (2011) in a case study on wind farms demonstrates the decisive role played by discourse in engagement, noting the key discourse relating to public engagement and wind power is the 'objection discourse'. Enabling a discourse about community engagement that more inclusively integrates the communities of knowledge within the Lake Eyre-Kati Thanda region is one way of addressing the challenges inherent in adhering to one discourse frame.

2. Scale

Scale also emerges as a key driver for community engagement. Fundamental to understanding why this is important is examination of the ways in which 'community' itself is constructed within the Lake Eyre-Kati Thanda region, The notion of community is laden with meaning. It has been used to reflect geographical location, or as a place or communion, a community of interest. It has been used to differentiate a group working together from the notion of society overall. Indeed Hillery (1955) in his seminal review found 94 definitions of community in the literature. Other studies focus on the ways in which communities are based on

religion, culture, education or other distinguishing features. The role of politics, knowledge and history in binding people together as collectives and as democracies also emerges from analysis of literature around community. How one constructs community then is clearly important to how community engagement will occur. A key question is how and why should one engage? To what extent has this been effective and are communities of the Lake Eyre-Kati Thanda Basin really engaged?

As with all places, the Lake Eyre-Kati Thanda Basin is a palimpsest of multiple communities that overlap each other. This includes multiple states and governments, multiple stakeholders, multiple jurisdictions, multiple settlements, multiple tenures. These communities are physical, as in found in the region, or virtual, via the adoption of social and electronic networking. They are internal; via membership of local communities of interest or institutions and external; via membership of institutions with wider interests such as international corporations or ENGOs.

Thus scale and diversity emerges from this analysis as a major driver to ensuring effective community engagement. Flowing on from the discursive dominance of NRM, we find that the communities of scale that are focussed on within community engagement for the Basin are primarily Indigenous or pastoral communities, which although not all geographically co-located are strong communities of interest. This has implications for ensuring collaborative and decentralised governance regimes. Marshall (2007) discusses the importance of nesting governance regimes and using the principle of subsidiarity (i.e. assigning tasks to the lowest order of governance that has capacity) in contexts such as this. While nesting governance arrangements is important, employing the principle of subsidiarity will oblige governments to resource governance sub units – and perhaps in this case ensure that other stakeholders that may have capacity (outside of Indigenous or pastoral groups) do contribute to the regions' governance.

Ensuring wider governance regimes across multiple stakeholders in the Lake Eyre-Kati Thanda generally would help build governance that was more adaptive, and via nesting arrangements, ensure community engagement, ownership and involvement in environmental governance at multiple scales. This would also embed some fluidity in the discourse frame of NRM, and build its capacity to incorporate other ideas/ concepts of environmental governance.

3. A toolkit for tools? What is the purpose of engagement?

It follows that the importance of scale and diversity coupled with the predominance of NRM discourse within community engagement has implications for the messaging and implementation of engagement practice. The differentiation between short and long term time frames and context specific and ongoing engagement is important here. Many community engagement strategies are employed for specific reasons i.e. community feedback on a new motorway, or potential declaration of a national park. Engagement in this case is often easier, it requires immediate and vivid measures to spark community interest and response, and is often quite well resourced. However, in cases such as the Lake Eyre-Kati Thanda Basin, engagement is ongoing, and over the long term. Messaging and implementation can falter, and populations and community champions will change over time, often at a cost of the corporate or

historical knowledge and investment that had preceded it.

A frequent resolution to this challenge in such situations has been to create a 'toolkit'. There are now many toolkits for community engagement to choose from, whether one draws from an international association like the International Planning Association, or conceptually in drawing from Arnstein's (1969) famous ladder of participation. Aslin and Brown (2004) provide grounding for Australian practitioners, as do various government departments, most notably in Queensland. These 'how to' guides have much inherent merit, yet the fact so many of them have been developed now provides too much choice. People on the ground are bemused and baffled by the huge array of toolkits available to them, the most recent being the emergence of multiple toolkits to engage/skill the community up in how to deal with climate change. Engagement with the community starts to become driven by the *practice* of engagement rather than the *purpose* of the engagement. An irony - there is now a need for a toolkit to explain the tools available.

For the communities within the Lake Eyre-Kati Thanda Basin, a key question is – how can messaging and engagement occur about key issues, when there are so many differing options available now to conduct the engagement? What is the ongoing purpose of it? How have previous tools/programs been evaluated and what lessons have been learned and applied? These are questions that are yet to be answered in this space, and for the region. The requirement to build targeted communication materials becomes evident. Communities, in order to engage, need to make sense of what they are trying to engage with, and policy makers must be clear on the purpose of the engagement. In the absence of a major threat, the impetus for and inclination to engage is often lost and engagement starts to occur 'simply because' rather than to achieve specific goals. This also means that stakeholders effectively get 'engagement' fatigue, and are ambivalent rather than motivated in the long term.

4. Identity

Finally, the role of community/place identity emerges as an important driver underpinning community engagement in the Basin. Community discourse actually differs according to place and the constructed identity stakeholders have about themselves and the region. A review of policy documents, tourist literature, media and related studies demonstrate that the Lake Eyre-Kati Thanda region has multiple identities. This is not the same as its current jurisdictional division into a number of NRM regions. One powerful construction, for example, is the characterisation of Lake Eyre-Kati Thanda as part of 'the Outback' or as Australia's 'Outback Wonder', the 'cradle' of Australia's Indigenous and non Indigenous history. This idea of Lake Eyre-Kati Thanda as part of the Australian Outback ties it into a much wider cultural identity and triggers popular perceptions about what characterises 'Australian' identity. The Lake Eyre-Kati Thanda region is also variously constructed as a desert – a much more unforgiving identity, and one which reminds people that it is a dry, hot region. Environmentalists and scientists identify Lake Eyre-Kati Thanda as a region of outstanding natural and cultural significance, and as such it appeals to many as a site of great beauty, environmental value and spiritual power. This identity means that the Basin becomes a place of international significance and a candidate for nomination as a place of world heritage significance. Lake Eyre-Kati Thanda is also repeatedly

constructed as the 'heart' of the nation, an identity that brings tourists in their flocks, particularly when it is in flood, to the region. For Indigenous peoples, Lake Eyre-Kati Thanda is their country, their home and locus of spiritual and familial identity. How place is constructed is key to receptivity to management of it (Cheng *et al.* 2003). Moreover, these prevailing constructions by which different communities, both within and without the basin identify themselves and the region, reflect a cultural diversity that could be harnessed more in developing engagement strategies.

Ways forward: Communities of Practice

In sum, this analysis of community engagement in the Lake Eyre-Kati Thanda Basin has identified three prevailing fora for engagement – by interface organisations, through on ground works and via networks and events for information dissemination. Formal evaluation reveals that despite identified limitations, this engagement is perceived to have been undertaken well. However, the fact that NRM remains the prevailing discursive framework within which engagement occurs, limits the possibilities of other stakeholders becoming involved in decision making about the region, which in turn has concomitant implications for cultural identity, messaging and integration of identities. Moreover, a key facet of facilitating ongoing engagement is working out how to embed adaptive learning processes so that over time people can change their practice and learning from experience, so as to achieve better outcomes for management of the region.

In this context, I suggest one means by which some of these challenges for existing community engagement might be addressed is via the deliberative use and policy application of the notion of communities of practice (CoP). A term first coined by Lave and Wenger (Lave and Wenger 1991; Wenger 1998) CoP are defined as the basic building blocks of social learning systems bound by three elements: joint enterprise, mutuality, and a shared repertoire of communal resources. Shared passions and problems (Wenger, McDermott, and Snyder 2002) and shared expertise (Ward and Peppard 2002; Cox 2005) must be present for a CoP to naturally emerge. Barab, MaKinster, and Scheckler (2004, p. 55) note that the ideal COP is 'a persistent sustained social network of individuals, who...[are] focussed on common practice and/or mutual enterprise'. In practice, CoPs can be communities identified by the following traits: (i) group identity, (ii) the ability to encompass diverse views, (iii) the ability to see individual learning as a way to enhance collective learning and (iv) a willingness to assume some responsibility for other's growth (Grossman, Wineburg and Woolworth 2001; Woolworth 2001). In determining the origins of CoP, Klein *et al.* (2005) argue that they tend to emerge naturally rather than by intent, and are situated within the social context within which they arise. Alternatively Wubbels (2007, p. 232), observes that while deliberately establishing a CoP is perhaps not possible, that designing the conditions within communities to enhance learning is. Learning is about belonging, experience, doing and becoming and a CoP must be cognisant of this fact (Warhurst 2006, p. 115).

Facilitating social or other types of learning in environmental contexts is invaluable, as highlighted by the implementation of a participatory approach to establish a hydrological monitoring network in South Africa (Kongo *et al.* 2010). This project was designed to monitor hydrological processes at field and catchment scale. Results

showed that learning was facilitated for the community and researchers both and enhanced the development of a small community of interest and practice around catchment management and hydrological processes in the region. Leys and Vanclay (2011) point to the importance of social learning to build knowledge and capacity within communities, and as tool to assist in adaptive management.

A case study of catchment groups in England and Wales also highlights the potential of drawing on or developing communities of practice to encourage forms of collaborative governance (Cook *et al.* 2011). These groups, effectively communities of practice, were able to engage the citizen, enable participation that was wider than the conventional domination of fishers, farmers and landholders, and support community based decision making via membership of the combined governing groups. This study also points to the benefits of enacting decentralised governance regimes such that actors ascribing to different value systems and institutions in geographically dispersed regions – such as Lake Eyre-Kati Thanda – can contribute to a common goal.

Bardsley and Rogers (2010, pp. 6–7) highlight that climate change is an additional engagement challenge and given the uncertainty surrounding it that:

responding to a changing climate will require more than the simple transfer of information to managers and planners: it necessitates an acceptance and ownership of the concept of change itself. Ownership in NRM contexts will involve strategic plans to guide locally applicable adaptation responses to clearly defined vulnerabilities, and supporting local communities to organise to build capacity to incorporate responses into all activities.

With the emergence of climate change as an ongoing problem, and the uncertainty and variability as to the scale, location and type of impact it will have, investing in communities of practice as a community engagement process within the Lake Eyre-Kati Thanda Basin is worth considering. Utilising existing and building towards new CoPs will help contribute to an agenda of transformative adaptation to climate change and other challenges. Building CoP in the Basin as a deliberative form of environmental governance will enable other forms and types of conservation tools outside or NRM to be adopted, and for other actors and stakeholders to define and integrate boundaries of involvement that at present are difficult to achieve. Such an approach can also build on ideals of social justice and social inclusion – important factors for people living in remote regions:

The ideas of legitimate membership (i.e. who can belong) and access to knowledge (and therefore power) can be explored using communities of practice ideas. If social change and sustainability are ultimate goals for CP, we need mechanisms which explore how participation, knowledge, identity and power are enacted in community settings. Communities of practice may be one step towards inclusive communities (Lawthom 2011, p. 4).

Conclusion

As an arid region, the Lake Eyre-Kati Thanda Basin is a region of cultural and environmental diversity and typifies the challenges that management of such lands entail. It is a huge expanse that is of scientific, economic and cultural significance to multiple communities of meaning and practice. Community engagement practice and discourse to date has focussed on NRM, at the expense of the other communities within the region. Identity and scale, as well as the existence of multiple and diverse communities within the region, are additional key drivers influencing the success of community engagement. The widening of engagement practice and discourse beyond the NRM space, and the deliberative investment in existing communities of practice as a means to facilitate community engagement and involvement in decision making about the basin, is one way forward. As Azzopardi (2011) concludes: 'Engagement makes us more confident and in charge of our lives, more able to contribute to our local community and assimilate within social and cultural activities as an illustration of citizenship'.

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Endnote

1. The Arabana name Kati Thanda has now been attached to Lake Eyre as a co-name.

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