

# LEARNING FROM THE IMPLEMENTATION OF SOUTH AUSTRALIA'S CLIMATE CHANGE ADAPTATION PLANNING FRAMEWORK

## A PILOT RESEARCH STUDY

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Informing Decisions





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## KEY FINDINGS AT A GLANCE

The South Australian Adaptation Framework provides guidance on how South Australia can adapt to climate change, with a key feature being the requirement to develop Regional Adaptation Plans (RAPs). Flexibility in the Framework has meant that RAPs have been developed in different ways to suit local conditions.

Through a series of interviews and two workshops this project compared and contrasted observations of people involved with the development of four completed RAPs in South Australia, covering the Eyre Peninsula, South Australian Murray-Darling Basin and Northern and Yorke NRM regions as well as Southern Metropolitan Adelaide.

The project identified the following issues to consider when developing RAPs:

### Project governance and administration

- Determine how you will secure commitment from sectors or organisations represented on steering committees and ensure proposed members are willing and able to communicate information back to their own networks.
- Where possible, work with existing governance bodies or sector leaders who have a history of working together.
- Ensure that the planning process embraces social, economic and environmental considerations.

### Planning process

- Consider what the measure of success is for the planning process. Recognise that capacity building and developing an understanding of how to plan for climate change can be equally important to identifying specific actions for the here and now.
- Incorporate a values analysis at the outset of a project. This can help develop the project narrative and ensures the planning focuses on what is important to a region.
- Develop a thorough understanding of the decision-making mechanisms of stakeholder organisations.

### Stakeholder engagement

- When using targeted engagement approaches ensure there is an adequate mix of private, public and community sectors represented.
- Aim to choose stakeholders respected by the broader community and who can effectively communicate the relevance and value of proposed actions.
- Where achieving high participation rates is proving a challenge, identify what motivates stakeholders and ask to attend events stakeholder groups are already hosting.

### Technical details

- Not all climate change planning processes require detailed climate change projections. In some instances trends in climate change can be sufficient as the basis of region scale planning processes.
- Detailed data sets are of interest for some sector specific planning, especially where stakeholders understand the sensitivity of their assets or services to small changes in certain climate variables.



- An understanding of decision lifetimes can help stakeholders understand how to relate to the different timeframes associated with climate change projections.

#### Climate change concepts

- Creating the narrative for climate change planning is essential and includes learning and practicing how to have the conversation about climate change.
- Consider the transferability of concepts between different sectors recognising that concepts may have different meanings in different sectors or stakeholders may relate to the concepts in different ways.



# 1 INTRODUCTION

## 1.1 BACKGROUND

Climate change projections indicate a warmer and drier climate for much of South Australia, with coastal regions also set to face rising sea levels. While mitigation efforts are essential, adaptation across the community - from a private and public sector perspective and from individuals to institutions - will be essential.

The Climate Change Adaptation Framework for South Australia released in August 2012 sets the framework for adaptation planning, following a structured process including the development of Integrated Vulnerability Assessments through to Regional Adaptation Plans (Government of South Australia Department of Environment Water and Natural Resources, 2012).

While this work is critical for the regions involved, it also presents a unique opportunity to follow how different regions, each with their own complex set of social-economic-cultural and environmental interactions, approach the task of developing sector wide adaptation plans. Identified differences in regional approaches to adaptation planning will also provide the opportunity to identify the most suitable approach to climate change adaptation in the future. This coordinated approach to adaptation planning within a set framework is unique in a global context.

## 1.2 RESEARCH FOCUS

The focus of the *Learning from implementation of South Australia's Climate Change Adaptation planning framework – Pilot Research Study* is to identify the key elements of success associated with climate change adaptation planning in four South Australian regions: what has worked and why? The study aimed to increase understanding about how agencies, organisations and communities undergo climate change adaptation planning and what lessons can be applied to future planning exercises in the State. The study also aimed to provide a better understanding of the effectiveness and suitability of the tools, processes and mechanisms implemented to help communities adapt to climate change.

To this end, the following specific research objectives were set in place:

1. To identify regional governance arrangements (including evaluation points) that support and sustain the climate change adaptation planning process;
2. To review how each region structured its climate change adaptation planning process (what it did in practical terms), and how this has tied in with local conditions and historical contexts (enabling and disabling);
3. To identify key cultural and institutional barriers to climate change adaptation planning and implementation, and examine how regions worked around these issues (effective strategies);
4. To identify successful methods of stakeholder engagement, both directly as part of the planning process and more broadly in terms of encouraging the region to engage with issues of climate change adaptation.

## 1.3 METHODOLOGY

The project methodology included an initial workshop held with key stakeholders to refine the research focus, objectives and study method. It was agreed at this point that a case study methodology would be applied to the four South Australian regions that had completed their Regional Climate Change Adaptation Plans to date. These were the:

- Yorke and Mid-North Region – Regional Climate Change Action Plan (Completed in 2013)
- Eyre Peninsula – Regional Climate Change Adaptation Plan for the Eyre Peninsula (2014)
- Resilient South – Regional Climate Change Adaptation Plan, covering 4 southern metropolitan Adelaide councils (2014)
- South Australian Murray-Darling Basin - Building resilience to a changing climate: A climate change adaptation plan for the South Australian Murray-Darling Basin (2014)

The regions are diverse in regards to key sectors as well as geographic area and landscape type.

A combination of telephone and face to face case study interviews were conducted with the Project Managers and other nominated project members (where available) in each of the regions. The interviews were addressed to the following research questions:

- a. What governance arrangements have regions put into place to their support climate change adaptation planning projects, and to what effect?
- b. What climate change adaptation planning approaches and processes have regions used and how have these worked?
- c. How have regions approached stakeholder engagement, what have been the key barriers and facilitators, and do this vary across regions and agencies?
- d. To what extent have partnerships and networks developed and played a role in climate change adaptation planning processes?
- e. How useful have various climate change adaptation planning tools and resources been in supporting the roll out of regional projects?
- f. In what way can technical detail about climate change scenarios support vulnerability assessments and identification of adaptation options?
- g. How have the concepts of vulnerability, adaptive capacity and resilience been used to inform identification of adaptation actions across the region?
- h. What have been the key challenges and lessons learned across the projects?
- i. What early actions and/or benefits have flowed from the climate change adaptation planning processes undertaken by the regions?

Participant responses were written up and returned to respondents for review and validation, and subsequently developed into a case study format. Thematic analysis was undertaken of the four case studies as a group and the key findings used to develop the framework for the final workshop to compare and discuss findings across regions. Project managers and other interested project team members were invited to attend, together with a representative from the Department of Environment, Water and Natural Resources (DEWNR) Climate Change Unit. The workshop involved a cross-region review of the key findings and a deepened discussion of the meaning and implications of these findings. Results of these consultation stages (the case studies and final workshop consultation) are presented in the following sections of this report.

## 2 CASE STUDY 1: REGIONAL CLIMATE CHANGE ADAPTATION PLAN FOR THE EYRE PENINSULA

### 2.1 CONTEXT

In response to local drought and bushfire conditions, the Eyre Peninsula has had a historically strong engagement with climate change, reflected in the 2009 Eyre Peninsula Natural Resource Management Plan, the Whyalla Climate Change Forum held July 2009 including Tim Flannery as keynote speaker, and the *Towards 2050: The Eyre Peninsula NRM Climate Change Initiative* which included the objective of consolidating and coordinating the development and implementation of a regional sector agreement to respond to climate change.

The Chair of the NRM Board at the time - Brian Foster - was instrumental in bringing key stakeholders (including the eleven local councils) to the table to discuss setting up a regional sector agreement. This was a challenge given the region is traditionally highly conservative, with a propensity for climate change denial; nonetheless consensus was secured and the idea was taken to a highly receptive state government.

In July 2010 the Minister for Sustainability and Climate Change and the Eyre Peninsula region - consisting of the Eyre Peninsula Natural Resources Management Board, Regional Development Australia Whyalla and Eyre Peninsula Inc. Board, and the Eyre Peninsula Local Government Association - signed a Regional Sector Agreement acknowledging the importance of collaborative work on climate change and sustainability within the activities of the participating bodies. Key areas of focus from the sector agreement were:

- Adaptive Option Assessments
- Economic Opportunities
- Knowledge - Science and Research
- Education and Communication
- Implementation of the climate change plan

The Agreement eventuated in the establishment of the Eyre Peninsula Climate Change Agreement Committee (EPICCA).

At the same time that formal governance processes were underway for the formation of the Eyre Peninsula Climate Change Agreement committee (EPICCA), the Climate Change Integrated Vulnerability Assessment was being undertaken (hosted by the NRM Board). This process followed a 'traditional path' which was found not to work effectively in the region. Mistakes that were identified included failing to understand the nature of the constituency and what was required to engage them; the community did not respond well to the concept and terminology of 'vulnerability'; and the importance of choosing the right consultant to do the engagement.

Building on this experience, EPICCA commenced a community education process (funded through the NRM Board) which resulted in a comprehensive EPICCA strategic work plan. In practical terms the plan was too big to fund, and therefore had to be tackled in 'bite-sized pieces'. Stakeholders on the EPICCA table contributed a sizeable financial contribution to fund a sea level rise related project based in Whyalla which provided an opportunity to develop a new community engagement model (undertaken by consultants Mark Siebentritt and Nicole Halsey). A Knowledge Audit was also undertaken, funded by the state Government and National Disaster Resilience Fund (NDRF). These pieces of work formed the basis for the Climate Change Adaptation Plan project process.

## 2.2 PROJECT GOVERNANCE AND ADMINISTRATION

EPICCA was established for the purpose of developing the Regional Climate Change Adaptation Plan for the Eyre Peninsula. Members included:

- Independent Chair (Brian Foster)
- RDA Whyalla and Eyre Peninsula (Chair of Board and one other member)
- Eyre Peninsula LGA (Chair of Board and one other member)
- Eyre Peninsula NRM Board (Chair of Board and one other member)
- Three voting members of the following State Government agencies: DPC, PIRSA, Department of Planning
- CEOs of RDA, NRM and LGA (ex-officio)
- LGA SA Director of Climate Change (ex-officio)
- Chair of Emergency Zone Planning (ex-officio)
- CEO (Cecilia Woolford) (ex-officio)

Roles and responsibilities of EPICCA members are set out in the Regional Sector Agreement, with specific reference to providing information and advice regarding initiatives, actions, concerns and perspectives from each of their respective bodies (e.g. EP NRM, EP LGA & RDA Whyalla and EP). As per the Sector Agreement, the Minister is expected to co-ordinate the participation of the relevant agencies and Ministers to provide a whole of government response to the EP region regarding matters related to the Agreement.

Project updates have been provided at each EPICCA meeting. Regular progress reports have been submitted to the Department of Premier and Cabinet, as required by the Sector Agreement.

In the early days of EPICCA a NRM manager was appointed to executive officer, however the Board subsequently employed a chief executive who was less focused on the administrative side (Cecilia Woolford) and better equipped to look for genuine funding opportunities and lead or contribute to project development. This was timed well to suit the evolving needs of EPICCA.

EPICCA is described as principally strategic in intent. People sit at the EPICCA table to discuss and cross-fertilise ideas, and to this end the conversations between members have been pivotal to shaping the project. A strong trust exists within EPICCA that members are informed about the issues, and share a vision and determination about the direction of the project.

## 2.3 CLIMATE CHANGE ADAPTATION PLAN PROCESS

There was limited understanding in the early stages of the project about how to develop a Climate Change Adaptation Plan. The project team consulted with Mark Stafford Smith of the CSIRO Climate Change Adaptation Flagship, who introduced them to the Thames Barrier Re-development methodology (Stafford Smith, Horrocks, Harvey, & Hamilton, 2011); this was South Australia's first introduction to thinking about Adaptation Pathways and Decision Timelines. This subsequently became the chosen methodology for EPICCA, however it had not previously been applied on a regional scale and the project team were uncertain about whether and how it could be applied in the Eyre Peninsula region.

Project consultant (Mark Siebentritt) worked closely with Mark Stafford Smith, who became highly involved in developing the process (comprising in-kind support offered by the CSIRO which was described as an enormous contribution to the project). Stafford Smith attended all three workshops as a key facilitator and contributed extensive intellect and gravitas to the process as an internationally recognised expert.

The Eyre Peninsula Adaptation Plan was informed by a climate change impact and adaptation options knowledge audit previously prepared for the region and the results of

an Integrated Vulnerability Assessment also undertaken. Information to identify adaptation options and pathways specific to the Eyre Peninsula was collected through an active phase of stakeholder engagement, by way of interviews, continual structured conversations and workshops involving key regional leaders and influencers (M Siebentritt, Halsey, & Stafford Smith, 2014). The engagement process took place over three stages:

1. Interviews with key regional influences to **identify locally relevant information**, preparation of a discussion paper, and workshop to refine and confirm information.
2. Interviews with key regional influencers to **identify adaptation options**, preparation of a discussion paper, and workshop to assess adaptation options.
3. Interviews with key regional influencers to **discuss a pathways approach**, preparation of a discussion paper, and workshop to refine and confirm pathways.

Stakeholder engagement worked across the continuum of identifying key areas of decision making for identified sectors on the Eyre Peninsula; assessing adaptation options; and confirming adaptation pathways and identifying cross sectoral adaptation priorities. This culminated in the Regional Adaptation Plan for the Eyre Peninsula.

## 2.4 STAKEHOLDER ENGAGEMENT

EPICCA developed a new community engagement model targeting community leadership rather than adopting a blanket community approach. Concerning the latter, it was considered there were not enough resources to achieve adequate and consistent coverage and nor was it likely to achieve the level of strategic involvement required for the project. The main role of EPICCA was to bring leaders and influencers from across the region together in a strategic format. This was based on the premise that the leaders would propagate the information and approach throughout their organisations and networks.

EPICCA did not want the 'usual leaders' (e.g. mayors, heads of agencies) to predominate in the consultations, opting instead to target community leaders from across a range of sectors to work as 'a sounding board' for the project. Some but not all EPICCA members sat at this consultative table. A criterion for selection was that participants had to 'wear at least three leadership hats' (e.g. council members, in Rotary, Lions or the local tennis club etc). Eyre Peninsula has a population of around 50 000, which made it relatively easy for EPICCA to identify community leaders who are generally well known: 'We know the community'.

Project champion Brian Foster was particularly well connected within the community and worked as a key point of liaison for EPICCA to make contact with the requisite people (i.e. he introduced the project by way of an email/personal invitation to participants). Most invited participants were easily engaged ('excited') by the process, even if they did not overtly believe in climate change (a few fell into this category). The 'hook' in this context was engaging them in thinking about *opportunities for the region into the future*.

Features of the EPICCA model of engagement that were identified as particularly useful in promoting collaboration included: incorporating face to face contact; talking about opportunities rather than vulnerability to tap into the Eyre Peninsula propensity to see itself as 'innovative and risk-taking'; vigilantly avoiding presenting as a group of 'rag-waving climate changers'; and incorporated sector leaders who had considerable kudos and influence within their constituencies.

Involvement in the project required a significant commitment on the part of participants – engagement over eight months, attendance at three workshops (they were not

permitted to send proxies), time to read the briefing papers, and willingness to engage in discussion with the project team.

EPICCA was the conduit for feeding timely, controlled, accurate and relevant science into the project. Excellent speakers were engaged to deliver key information to participants; they were characterised by their ability to communicate effectively with workshop participants (ranging from farmers through to local government representatives), and their strong ability to translate the science (e.g. talking in terms of trending and patterns).

A deliberate approach in the early workshops was to not talk at length about the science (this was included in the pre-workshop briefing papers), but rather to discuss in a dynamic way the implications and options going forward. This approach was seen as responsible for exciting and engaging people: 'People were shifted by the process not the information'.

Later workshops required other levels of expertise (e.g. input from energy, planning experts). Where possible, EPICCA preferred to use local experts (people who had been working in and around the Eyre Peninsula) rather than external experts/government employees. This demonstrated trust in local knowledge and experience and was highly valued by participants.

The EPICCA process was very much about equipping participants with information, ideas and the ability to return to their constituencies and commence a thinking and action process rather than 'stipulating what has to happen'. This was about 'developing the capacity of key decision-makers to make decisions over time; it was a key moment when they realised they didn't have to achieve everything tomorrow, that this was not a blueprint for decisions going forward'. This was seen to de-mystify the process. It was noted that it is critically important to treat people as intelligent beings, and encourage them to lead the process.

## 2.5 PARTNERSHIPS AND NETWORKS

The partnership with CSIRO was considered critically important both in terms of informing the methodology and being given access to the latest science and thinking around climate change. The in-kind contribution of Mark Stafford Smith's time and hands on involvement in developing the methodology and in the workshops was invaluable to the development of the Adaptation Plan.

With respect to working within and around local government dynamics, there was some difficulty noted reconciling Councils' emphasis on the climate change related dimensions of mutual liability and risk management, and the project team's focus on presenting climate change related opportunities. Some Eyre Peninsula councils tend toward inward, conservative thinking (including an element of climate change denial); moreover, councils are generally constrained by limited or no resources to engage in the climate change adaptation space. Regional and community leaders from the LGA domain tend to be focused at a local level although some council Mayors, CEOs and others are becoming more attuned to big picture and broader regional thinking. EPICCA perceived a level of leadership thinking changing over the course of the project, particularly in relation to an increased appetite for 'lifting big ticket items' (e.g. infrastructure development) to a regional level rather than a local government level. Engaging with the discourse of climate change is increasingly part of this transformation, as it is geared to supporting future opportunities in the region.

## 2.6 TOOLS AND RESOURCES

The **SA Climate Change Adaptation Framework** was viewed as 'absolutely critical' to the project; moreover, it is seen as unique to SA in embedding Climate Change Adaptation Planning within regulatory statutes.

The **LGA's Climate Adaptation Planning Guidelines** however were seen to be not particularly useful or usable. The Guidelines were considered to be too long and unwieldy for community use, noting that the 'old model' of writing planning documents does not work as stakeholders need to be able to grasp the meaning quickly and easily. Moreover, the Guidelines have a 'business as usual flavour rather than looking to the future'.

The first **annual adaptation showcase event** was considered to be extremely valuable in providing an opportunity for the region to feel part of a wider climate change adaptation community. Different regions talked and networked with each other, and canvassed and shared ideas. The last showcase was seen as less useful mainly because the event was used to 'talk at us rather than listen to how we are doing the work'. The event was 'less hands on and less practitioner focused', involving fewer opportunities for participant input as opposed to 'telling us how to do it'.

In general though, showcase events are seen as critical for moving the projects forward in a resource constrained space in helping to maintain momentum and ferment new ideas. This is particularly important as state and national governments are investing less in idea creation (and the state government has not committed to resourcing the projects into the future for implementation). Showcase events are also a forum in which new IPCC science can be brought to the attention of the various regions, keeping the climate change adaptation process dynamic and up to date.

In this context it was further flagged that funding needs to be designated to bring community leaders and practitioners to the showcases and other forums; otherwise the only people in attendance are those who are there as part of their jobs – namely bureaucrats as opposed to community-based practitioners.

NCCARF Conferences and periodic workshops have been instrumental in defining the EPICCA project.

## 2.7 USE OF TECHNICAL DETAIL ABOUT CLIMATE CHANGE SCENARIOS

EPICCA held the view that a lot of money was spent on downscaling global models to a regional scale, however while this was useful it was not critical to the process. The detailed science is seen as an important foundation, however it was noted that the community tends to 'glaze over' when too much emphasis is placed on communicating the technical information. EPICCA took the view that the region would 'trust the general message that temperatures are getting hotter, sea levels higher and conditions drier' - without delving into too much supporting technical detail.

A further view is that such detailed technical modelling and projections may act to constrain 'informed decision-making into the future' (as opposed to informing a present-time vulnerability assessment). EPICCA considers it important to embed a climate change adaptation planning *approach and methodology* that enables adaptive or flexible planning for future scenarios:

*Uncertainty and extremes form part of the real world, and the smooth local regional models can't capture that detail and are therefore only part of the story. Adaptation Pathways accommodate these issues in the decision timeline pathways.*

A further view was that technical modelling and projections cannot deliver 'accurate details to inform accurate decision-making into the future' (as opposed to informing a present-time vulnerability assessment). EPICCA considered it more important to embed a climate change adaptation planning *approach and methodology* that enables capable planning for future scenarios.

## 2.8 USE OF VULNERABILITY, ADAPTIVE CAPACITY AND RESILIENCE AS KEY CONCEPTS

EPICCA certainly used the concept of *adaptive capacity* in consultation settings, however translated into a more digestible form; for example, the team talked about the importance of keeping options open, while remaining aware of – and consciously avoiding – maladaptive actions. The word ‘resilience’ was rarely used – although the EP NRM Board was seen as particularly ‘wedded to that particular terminology’ – as it did not resonate with the EP constituency. EPICCA was intent on framing the process as being about strengthening local capacity for decision-making over time. A further note was that the concept of diversity should be used more, particularly in relation to diverse economic drivers of economic opportunities.

## 2.9 CHALLENGES AND LESSONS LEARNED

The EPICCA project has been undertaken with limited resourcing. There is a view that at a funding level, the EP region is seen as advanced in the area of climate change planning (i.e. they had already completed their IVA), and therefore were less in need of funding within the current cycle. Moreover, funding is seen as targeted more at doing vulnerability assessments than doing adaptation planning, whereas EPICCA believes IVAs are limited to a specific point in time whereas a stronger future orientation is more important.

Other identified barriers to the process included climate change language and terminology, which can pose a major issue in an environment that is generally averse to the idea of climate change. It is also difficult to break through the barrier of ‘doing things in the normal way’, and breaking the tendency for local government and some other stakeholders to be ‘inward thinking’. More generally –

*There are always people who see climate change as fear-mongering, or farmers that work with climate variability all the time and see it as something that ‘just is’. But this opinion is less so than it was four years ago. There has been a gradual shift in acceptance of climate change as something that can and should be managed.*

Notably, it does not help the conversation on the ground (particularly with farmers) to talk about ‘man-made climate change’; however climate change impacts have come about, the focus needs to be on relevant and timely adaptation actions. From the perspective of one EPICCA member interacting with her constituency (as an NRM Board member and active farmer), what was helpful in terms of dialogue was sharing personal experiences with farmers. This conferred a level of credibility and helped with ‘cut through’ – especially in the Eyre Peninsula where people generally have a good understanding of agriculture and farming.

A key lesson in engaging the community was the importance of shifting the language away from ‘climate change’ to talking about economic issues and opportunities, in particular the cost of not engaging with the issues and missing related opportunities. The science has necessarily been central to the process, but the emphasis on business and inclusion of finance leaders has been vital. Early in the project a breakfast was held for conventional local leaders (e.g. Mayors etc., many of whom were climate change deniers), with Mark Rogers (Asset Manager Infrastructure Investment – Colonial First State Global Asset Management) as guest speaker. A key message was that funding for infrastructure development was unlikely to be forthcoming without specific reference to climate change implications. This was seen to have gained particularly good traction among participants, signalling the importance of identifying useful hooks for different audiences.

There was serious consideration given to who was involved in the adaptation planning process, from an information provision perspective. A noted success factor was appreciating the body of local knowledge in the region, particularly with respect to expertise and understanding about the local economy and conditions. External specialists



were brought in on an as needs basis, to address specific pathways and sectors (taking care not to bring in bureaucrats to 'lecture' local people). Importantly, these experts were carefully chosen to ensure they knew how to communicate effectively and relate to local people; and whose backgrounds and experience conferred a level of credibility and value to the process. The process was greatly assisted by the use of experienced facilitators who knew how to work with people regardless of their beliefs and ensured that the process was respectful.

Many of the people involved in the consultations were key people within their sectors which helped with the dissemination of the plan into these other sectors.

## 2.10 BENEFITS AND EARLY ACTIONS FLOWING FROM THE PROCESS

The project is described as 'the starting point of a long-term journey', so judging early wins is difficult. For this reason, the early wins are pinned more to mindset change rather than physical projects or achievements. EPICCA wants the Adaptation Pathways methodology to become embedded in the general planning processes of regional stakeholders. It was hoped that the project has succeeded in demonstrating to participants that the process is not a difficult one to undertake. In an indication that understanding of the issues has grown throughout the project, some participants who may initially have been sceptical are now wholly on board with the EPICCA agenda, including writing a supporting article for the No Till Farming Association newsletter. Articles about the project have also been broadcast in local media including the Pt Lincoln Times and other local papers. The project is seen to have 'helped people to stop being afraid of talking about climate change issues'.

The first regional NRM Plan contained some mention of climate change but did not include specific actions; it was determined that the revised version of the plan needed to contain more climate change adaptation actions. The Adaptation Pathways outcomes will be used as part of the planning process for the next regional NRM Plan, for example, considering corridors of native vegetation for animal species to move between locations.

The fact that the LGA Board has the adaptation pathways plan on their agenda for discussion was considered a significant step forward. It was also noted that some CEOs in local councils are starting to use elements of the Adaptation Planning process to respond to issues as they arise. For example, councils now know that they have to refer to climate change in relation to their thinking about infrastructure development such as building a new port; moreover they know that the Adaptation Pathways methodology is available to them. It was noted that the Eyre Peninsula NRM Board is using the methodology in their planning, and that RDA Whyalla and EP and LGA EP are also considering this. The EP Local Government Association included the Adaptation Pathways paper on the agenda of their council meeting – for discussion at the meeting and to form part of their thinking for EP LGA activities. Some of the people on the EP LGA were also involved in the adaptation planning process which helped it to get on the council agenda. The City of Port Lincoln has committed to providing a workshop on the method and including it in their next Strategic Plan.

The lack of funding to support related initiatives at a more general community level is seen as a barrier. Nevertheless, there is a sense that different elements of the community are starting to use the thinking generated by the project process (however EPICCA believes it is too early and too difficult to truly gauge and measure actions ensuing directly from the project process).

A notable achievement was the use of the Eyre Peninsula Governance model to inform the State Climate Change Adaptation Framework, allowing regional flexibility (the EP project was the referenced case study). On a wider scale, the University of Melbourne has used the Adaptation Pathways methodology developed in the present project to undertake a study on Lakes Entrance, building on the work done by EPICCA. EPICCA has

also held conversations about the governance model (i.e. collaborative regional stakeholders in partnership with the state), decision timelines, and adaptation pathways methodologies with World Bank signalling influence at an international level. The project team has also developed a manual/Toolkit which is currently under peer review.

The team considered one of their most important achievements was managing to apply the Adaptation Pathways methodology on a regional (rather than a sectoral) scale, when this had never been done before. It was also a major achievement to secure comprehensive stakeholder agreement to have a consolidated regional climate change adaptation pathway for a Regional Transport Infrastructure Plan and Integrated Management Strategy for Spencer Gulf. This demonstrates that EPICCA was able to move stakeholders out of their silos into a genuinely collaborative space.

In general, the development of the regional adaptation plan was a highly valuable exercise for building confidence among participants, leading to a state where 'people were able to converse productively in the climate change space'. The project team believes that going forward, there is a need to consolidate and hold the EPICCA table 'machinery' together. It is likely that State players will come together on an annual basis to receive updated information, which it is hoped will inject and sustain excitement and motivation.

## 3 CASE STUDY 2: YORKE AND MID NORTH REGIONAL ALLIANCE REGIONAL CLIMATE CHANGE ACTION PLAN

### 3.1 CONTEXT

The Central Local Government Region (CLGR), RDA Yorke & Mid North and Northern & Yorke NRM Boards held a regional forum in 2008, prompted by the Intergovernmental Panel on Climate Change (IPCC) 2007 report. The forum included regional leadership groups such as local council CEOs and Mayors, elected members and staff, NRM staff and board members, NRM-associated groups (e.g. Landcare, Coastcare, etc), and key industry groups (e.g. SA No-Till Farmers Association). The forum was open to the general public but was specifically targeted to local leadership.

Speakers at the forum included representatives from the Bureau of Meteorology, CSIRO and other Australian government representatives, and scientific bodies. It became clear at the forum that 'there were no answers to the climate change questions that were asked', hence the region had to drive the future process for itself. An agreement was reached at the forum to form the Yorke and Mid North Regional Alliance Steering committee to drive a climate change response for the region. The Regional Alliance is 'an integrated community focused reference group', representing wide ranging interests, industry groups, networks.

Two to three years of project work followed the 2008 Regional Forum, including a number of research projects initiated by external agencies, reflecting a narrow, unintegrated focus. Several of these projects involved downscaling data for modelling purposes (funds were available for this type of work) however the climate change adaptation steering committee was more interested in understanding the climate change trend data. Funding was subsequently secured to undertake a climate change vulnerability assessment in the region. In 2011 the Central Local Government Region (CLGR) undertook the *Central Local Government Region Integrated Climate Change Vulnerability Assessment* in partnership with Regional Development Australia (RDA) and Natural Resources Management (NRM). It took a triple bottom approach and was informed through a panel of experts and regional leader workshops. The methodology informed the LGA Climate Change Planning Guidelines and SA Climate Change Framework.

As part of this process a technical panel was formed and input from regional groups was used to develop the Vulnerability Assessment. The technical panel was involved in developing the technical, scientific aspects of the vulnerability assessments, and consisted of economists, ecologists, agricultural researchers, and hydrologists. Input from the regional groups (e.g. NRM and local government) was sought to 'ground-truth' the technical data and to achieve a local perspective to balance the technical document. Of the 15 councils in the region, around three or four were actively involved in the process, with the remaining Councils maintaining a peripheral level of interest in the outcomes.

The role of the steering committee was strengthened in 2011 through the signing of a Sector Agreement with the South Australian State Government, pursuant to the Climate Change and Greenhouse Emissions Reduction Act 2007. The Committee works collaboratively to provide coordination and leadership and promote a 'whole of community', inter-agency approach to managing and mitigating climate change across the region. The Steering Committee continues to meet on a bi-monthly basis to implement and review progress against the Regional Climate Change Action Plan and to guide the role of the Regional Climate Change Coordinator.

## 3.2 PROJECT GOVERNANCE AND ADMINISTRATION

The Yorke and Mid North Regional Alliance Steering Committee members include the following:

- Central Local Government Region (CLGR) – CEO and Chair
- Regional Development Australia (RDA) Yorke and Mid North- CEO and Board representative
- Chair of the Natural Resources Management (NRM) Board
- Department of Environment, Water and Natural Resources (DEWNR - became a partner after signing the sector agreement)
- Zone Emergency Management Committee (with representation from Government agencies in the region, CFS, SES, Health, Safecom, Local Government, PIRSA on an adhoc basis, others as relevant to particular projects); responsible for developing emergency Management Plans for each region; largely silent partners in the project due to resource issues.

These groups were more or less all involved from the beginning of the steering committee. The Steering Committee reports through to the Yorke & Mid North Regional Alliance.

The committee has a Terms of Reference to provide guidance to the role of the Yorke and Mid North Regional Climate Change Project Officer and provides input into the implementation of actions arising from the vulnerability assessment and adaptation planning. Committee members serve a two way purpose, to feed the views of their constituencies into Committee proceedings, and to disseminate information about proceedings back out into their constituencies. Some members are more dynamic than others in this respect; however the Committee has worked well with strong commitment within the group to the climate change adaptation directions being taken.

The Steering Committee had been established prior to the commencement of the current project and had been meeting regularly to discuss a range of integrated, strategic issues (not just climate change); this worked to the benefit of members as there was an established process and understanding about how the committee worked. Committee meetings have been regularly minuted.

The position of the Yorke and Mid North Regional Climate Change Project Officer was collectively defined by the Committee members. This was seen to assist in identifying common interests across the three groups, and strengthened the position as each member was able to provide support in their particular professional capacities (e.g. RDA support was invaluable in dealing with economic issues). Having a central, dedicated, resourced project officer allowed strong oversight over project activities, keeping everybody informed about developments.

All committee members have a direct interest in regional outcomes, work together on a wide range of issues (not just climate change), and have a commitment to each other. Individual interests span a broad range of areas, however members appreciate the opportunity to integrate their thinking.

The Committee was well resourced (through the project officer's position) and there was considerable support received from the SA Government through Rohan Hamden's role. This particular resource separated the current project from other less successful projects, which often 'hit the wall' at the government level. Rohan Hamden helped to 'break down the barriers and prepare the ground work at government level', so the project was able to feel 'supported from within government, which is very rare'.

### 3.3 CLIMATE CHANGE ADAPTATION PLAN PROCESS

The Yorke and Mid North Regional Climate Change Action Plan builds on the work of the Knowledge Audit and Regional Climate Change Vulnerability Assessment, prioritising recommendations for implementation, identifying opportunities for transformation and setting out a clear pathway for coordinated and collaborative action and regional leadership (Yorke and Mid North Regional Alliance, 2013).

The adaptation planning process was designed to keep the plan focussed on how the RDA, NRM and CLGR could work together effectively. Accordingly, the Action Plan is about strengthening and coordinating existing partnerships, and using the base stakeholder group (i.e. Steering Committee and their Boards, and the networks of these organisations) to expand the network.

The adaptation planning process aimed to:

- Share and validate findings from the Integrated Vulnerability Assessment with regional stakeholders;
- Position the Regional Alliance for an ongoing climate change adaptation leadership role;
- Consolidate Regional Alliance climate change adaptation priorities for the region in a series of actions;
- Promote regional climate change adaptation priority actions to potential project partners and identify common needs;
- Justify the case for initial key strategic regional driven projects.

The adaptation planning process involved:

- Drawing in the information gathered through the IVA consultation process;
- Conducting additional targeted stakeholder consultation (a combination of meetings, telephone discussions) about existing work in the area, government policy directions, and existing tools and relevant research to work through the possible steps to addressing the wide range of recommendations;
- Attending meetings across the region (e.g. Zone Emergency Management Committee, Central Local Government CEO/Mayor meetings, RDA Committee meetings etc.) during the planning period to gain feedback into the criteria and the actions. Draft actions were passed through the NRM, RDA and CLGR Boards/Committees and various meetings of the Climate Change Steering Committee.

Individuals from the following organisations were contacted during the process of moving from the IVA to the Action Plan:

- |                                   |                                |
|-----------------------------------|--------------------------------|
| • DEWNR                           | • Rural Solutions              |
| • SARDI                           | • DPTI                         |
| • Central Local Government Region | • DMITRE                       |
| • Yorke and Mid North RDA         | • Seed Conservation Centre     |
| • Greening SA                     | • PIRSA                        |
| • Country Health                  | • Local Government Association |
| • Northern and Yorke NRM group    | • CFS                          |
| • CSIRO                           | • The University of Adelaide   |
| • Uniting Care Wesley             | • Seed Consulting              |

### 3.4 STAKEHOLDER ENGAGEMENT

Attendance at the Vulnerability Assessment forums presented the main opportunity for community stakeholders to provide input. It was deemed important at that stage to get all the community leaders 'on the same page' and for them to develop an understanding of the issues so these could be integrated into their own thinking and planning processes. The VA process resulted in around sixty recommendations, some of which then informed the adaptation planning process undertaken by the Regional Alliance.

Stakeholder contact was more targeted in the adaptation action plan stage, whereby people with particular expertise were consulted to assist with developing actions in response to the recommendations. The Regional Alliance considered the best way to keep stakeholders engaged at this stage was not to have a 'drawn out planning process', but rather to get projects on the ground as soon as possible.

One of the most useful ways of getting people on board during the Vulnerability Assessment stage was to make people aware of the direct, localised potential impact of climate change, for example more bushfire days, increasing levels of salinity, etc. In workshops people were grouped together into main areas of interest, for example triple bottom line (social, environmental/ecological, financial); environment, agriculture/viticulture, economy, emergency management, community development, health, education.

Information generated through the vulnerability assessment was disseminated to stakeholders via regular updates occurring through regular CLGR, RDA and NRM processes (e.g. meetings with the CEO and Mayor, provision of a written report). Some stakeholder groups source climate change information from alternative sources, for example farmers through farming system groups (e.g. SA No-Till Farmers Association).

Local media - including radio, newspaper and TV - was used to promote the climate change adaptation planning process, who was involved, and the findings that came out of the process. Broader community engagement and action in relation to climate change is very much dictated by mainstream media and politics; as climate change is not proactively discussed (particularly at the national level) at present, community engagement has in effect gone backwards.

Local government interest in climate change adaptation has been heavily driven by their concern with insurance and regulation – namely reducing the risk of being sued for flawed planning processes (dominated by a legal/regulatory perspective). The RDA perspective tends to be driven by concern for financial security and risk. Some businesses and industry groups are using climate change to their advantage from a marketing perspective (e.g. promoting themselves as carbon neutral) and from a management perspective (eg. timing around pruning, etc). Small businesses have also explored opportunities in relation to waste, energy, water and emissions audits.

The project team considered that a participation analysis had been done in an informal (instinctive) way by the Steering Committee, as the stakeholders in question 'are the people they deal with every day and therefore already have a close working relationship with'. The Regional Alliance Climate Change Steering Committee was considered to be well represented across a range of stakeholder groups.

### 3.5 PARTNERSHIPS AND NETWORKS

CLGR have been active partners in the project from the outset. There was no active dissent from any of the Councils in the region, and although some did not want to be directly involved (i.e. have a hands-on role) the majority were keen to see the work go ahead provided others were prepared to do it. The councils in the region are very small in comparison to urban councils and climate change activities are not sufficiently resourced to take an active role (i.e. there are no environmental specialists in the regional councils).

### 3.6 TOOLS AND RESOURCES

It was noted that much of the Climate Change Adaptation work done in the Yorke and Mid-North region pre-dated and informed the development of the **SA Climate Change Adaptation Framework**, which in turn strengthened the region's approach.

The State Government played a helpful role by providing links to other councils and funding opportunities, and in particular through having a dedicated resource (person) to drive the process and assist regions to make important connections, e.g. with relevant government departments. The region appreciated that the Framework and the State Government representative supporting the projects did not impose a central model, but rather allowed flexibility in approach.

The **LGA climate adaptation planning guidelines** were similarly based on work done in the Yorke and Mid-North region, as were the **LGA's Vulnerability Assessment guidelines**. What was useful were the workshops held by the LGA when putting these guidelines together, which gave the regions an opportunity to share ideas with each other.

The **annual adaptation showcase events** provided valuable opportunities for networking and hearing about related research. The events also provided a snapshot of what is being done across the state so regions could identify other projects to follow up for greater detail. It was also a good opportunity to showcase the work the Yorke and Mid-North region was undertaking, to identify the extra support needed, and to get buy-in from the State Government.

The papers presented at the NCCARF conference were considered interesting and useful. This event also provided an opportunity for the Yorke and Mid North region to present a paper on their work and to sit on a discussion panel.

The Yorke and Mid-North Adaptation Plan was launched at the **Greenhouse Conference in Adelaide** which provided another valuable opportunity to showcase the region's work. The Premier of South Australia talked about the work, which helped to build confidence and positivity, which helped the team to take the next step forward. The project was awarded a High Commendation in the 2013 NCCARF Climate Adaptation Champion Awards, which provided another forum in which to showcase the work undertaken. Various local government conferences and showcases were used to show what was achieved in the region and how it was done.

### 3.7 USE OF TECHNICAL DETAIL ABOUT CLIMATE CHANGE SCENARIOS

A great deal of time was spent deciding which climate change scenarios and timeframes to use for the vulnerability assessments. It was felt that the SA Government needed to decide which scenario should be used by the regions across the state. The Steering Committee chose the middle of the road scenario and did all their work around this, whereas other regions chose different scenarios. One of the biggest failings of the State Government was not to choose which scenario the regions should use, in order to encourage consistent scenarios and methodologies. It was considered that the State Government's Premier's Climate Change Council should have carriage of this.

The nexus between science and ground level community understanding is an issue. There is a need for a translator role which the Steering Committee undertook, however State Government leadership would have been useful in this context.

The team also noted there is a need to drill down across sectors, as scenarios and time frames have different implications for different sectors – 'when you start looking at specific towns and specific issues the scenarios chosen really come in to play'. The team posed the possibility using Goyder Institute data and CSIRO data by NRM region.

### 3.8 USE OF VULNERABILITY, ADAPTIVE CAPACITY AND RESILIENCE AS KEY CONCEPTS

The concepts of vulnerability and adaptive capacity were integral to the Vulnerability Assessment process. This varied somewhat from the council focus which was predominantly on climate change associated risk. People responded well to the notion that a risk might exist but can be mitigated by adaptive capacity. NRM commonly use the concept of adaptive capacity, though this is shifting toward resilience. There is a level of confusion about the terminology which needs to be addressed.

Community perspectives about climate change play a crucial role; for the language and concepts to work, they have to resonate with people and businesses 'on the ground'. Some people working within dryland agriculture and viticulture respond to the terms adaptive management and resilience, but not to the broader notion of climate change per se; for example the notion of building resilience to the climate change related encroachment of weeds achieves traction, where straight talk of climate change does not. It is about making the issues (and impacts) readily identifiable and relevant to stakeholders, particularly if they are already experiencing a level of impacts and are open to new management strategies and techniques.

### 3.9 CHALLENGES AND LESSONS LEARNED

The lack of integration and communication across government agencies regarding issues and strategies posed a key barrier at the Vulnerability Assessment stage, as 'the project was focused on the whole picture but government could only deal with one piece at a time'. There is a lack of understanding at both national and state government level about the need for integration of the triple bottom line at the regional level: 'they eventually got there but it is an ongoing issue'. For example, the Low Carbon Project for which Renewal SA is a key partner is concerned with reducing emissions (mitigation) whereas the current project is about adaptation; getting departments to talk across these points of difference proved very difficult.

The climate change adaptation planning process is led at a regional level not a State Government level, hence 'there is a bit of a mismatch between the regional agenda and SA Government policy'. This made it difficult for the region to access funding when it did not specifically fit with government policy or agenda.

Among regional leaders, individual views about climate change had an impact on how different people engaged with the process. It was important to find the right trigger/driver to engage with these people and to tailor the information to different groups; for example, talking in regulatory terms with local government and about adaptation to local conditions with farmers.

At the regional level, many people wear many different hats and are involved in multiple groups, hence they tend to be exhausted by planning processes in general. This is why the consultation element of the adaptation planning process was kept contained. The ability of the project team to utilise existing work (e.g. information gathered during the vulnerability assessment) and to tap into existing meetings addressed to other matters but where they were happy to dedicate a short block of time to provide input and feedback was useful in this context.

In general the project team considered that the approach used worked well. There were no precedents for how to do this well, but the process used 'made sense for their region'. The project did not do broader community engagement (i.e. beyond regional leaders), but this was seen as 'the right approach for this region'.



### 3.10 BENEFITS AND EARLY ACTIONS FLOWING FROM THE PROCESS

A number of high priority actions outlined in the Action Plan have been implemented by the Regional Alliance Climate Change Steering Committee, for example the Goyders Line Sustainability Hub was established within the region to generate links between the Regional Alliance and CSIRO<sup>1</sup>. The Hub comprises a group of regulatory organisations and research institutes that meet regularly to look at regional research priorities and opportunities for funding. They are looking into joint projects between research organisations and agencies to target research at specific issues, and provide an opportunity for farmers (and other community groups) to link directly to researchers. For example, if a community group has a particular interest or question they want to address, they can pursue this through the Hub. Other benefits include pooling resources, reducing overlap and weighing up triple bottom line factors.

Other examples of actions implemented include:

- The development of a low carbon prospectus;
- Coastal digital elevation modelling;
- Assessment of bushfire risk, partnering with DEWNR, local government, Safecom;
- Working with the Red Cross regarding a community/household level engagement strategy around climate change;
- Examining policy surrounding areas of key vulnerability, and the potential for maladaptation.

Different industry groups (e.g. farming groups, landcare groups) are noted to be doing research and commencing actions and/or projects in a range of areas, for example councils considering sea level rise in town development plan reviews and related issues in water management planning. The projects associated with the Regional Alliance have helped to flag issues in the broader community; project Steering Committee members have spoken to research organisations, briefed CEOs, and looked at any avenues available to promote the work and engage with people.

It was noted that local actions potentially stem from a range of influences (not just the climate change adaptation planning process) however this does signal that the region is recognising and engaging with climate change related issues. It was considered that the regional climate change adaptation plan has had more of a subtle rather than direct influence over the region, via the influence of regional leaders all working from the same plan and filtering this down through their networks. The coordination role played by the project officer in this context has been very important. The adaptation plan is well known within the region – ‘demonstrated by the fact that one or two phone calls usually puts you in touch with someone that is connected in some way with the adaptation planning process’.

The climate change adaptation action plan is supporting what is already happening in the region and as such is not about developing an entirely new process for the region. Existing groups are undertaking research and the current process is about supporting this rather than ‘taking over’. The Steering Committee is interested in identifying what information is needed and setting up information and data resources to address any gaps (e.g. digital ocean levels). This works toward building capacity rather than ‘taking on the whole issue’ and has a patent focus on connecting individuals, groups and projects to share resources and knowledge. The process of developing the action plan has been good insofar as it recognises that solutions may not initially be clear, therefore allowing flexibility in developing a response.

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<sup>1</sup> [http://www.yorkeandmidnorth.com.au/sustainability\\_hub/](http://www.yorkeandmidnorth.com.au/sustainability_hub/)

An example of this in action involved undertaking an adaptation planning process in the agricultural sector, where there is interest from different groups to incorporate climate change into some of their longer term planning processes. The Yorke and Mid North Climate Change Adaptation Project Officer led the initial coordination to bring together stakeholders (including local farmers) and to link groups up via a regional workshop. This commenced a discussion which culminated in putting together a successful funding application; at this point an independent group had taken up the concept and carried it forward independently. The Action Plan was integral to this, as it provided the 'reason to get together and start talking'.

## 4 CASE STUDY 3: RESILIENT SOUTH REGIONAL CLIMATE CHANGE ADAPTATION PLAN

### 4.1 CONTEXT

Resilient South is a partner project between the cities of Holdfast Bay, Marion, Mitcham and Onkaparinga and State and Federal Governments to develop a Regional Climate Change Adaptation Action Plan for the Southern Adelaide region. The partnership was initiated by the cities of Onkaparinga, Holdfast Bay and Marion for the purpose of collaborating on a funding application for the Natural Disaster Resilience Program (NDRP). The goal of the Resilient South Project is a Region that is resilient to natural hazards associated with climate change, is focused on preparedness and crisis avoidance, and has captured opportunities in innovation in adapting to climate change (Resilient South, 2014). The southern region is characterised as having a strong history of local government collaboration to deliver shared strategic outcomes for the region.

Following a twelve month process to secure a Heads of Agreement among Holdfast Bay, Marion and Onkaparinga council partners, funding was secured under the 2010-11 NDRP for the *Southern Adelaide Region Integrated Vulnerability Assessment and Adaptation Action Plan* (Government of South Australia South Australian Fire and Emergency Services Commission, 2015). The City of Mitcham joined the project during this period. Subsequent to this, the Southern Adelaide Regional Sector Agreement was signed in July 2013 between the four Councils and the Minister for Sustainability, Environment and Conservation. The sector agreement articulates a common goal to develop and deliver climate change adaptation planning and programs in a cooperative, coordinated and consultative manner in the region. The state level Sector Agreement Strategic Reference Group includes representatives of State Government agencies tasked with providing access to key resources, data and advice.

The Resilient South project is led by a Project Management Committee including nominated representatives from each of the participating Councils, and is supported by the Resilient South Project Coordinator. The development of the Regional Adaptation Plan was undertaken by a consultant team led by URPS in association with Seed Consulting Services, SKM, Ecocreative and Econsearch, Concepts of Change and the Australian Workplace Innovation and Social Research Centre. The Plan was completed in July 2014.

### 4.2 PROJECT GOVERNANCE AND ADMINISTRATION

The project management committee was formed for the purpose of the project. The committee consisted of the following:

- The project coordinator (Chair of the Steering Committee)
- A nominated representative from each participating Council (Cities of Mitcham (2 reps), Marion, Onkaparinga & Holdfast Bay)
- Rohan Hamden from DEWNR attended occasionally.

Governance arrangements were set up through the Heads of Agreement which gives the committee decision-making capacity; nominated committee members each had decision-making authority through their representative roles.

The committee was characterised by the project team as 'collaborative and sensible', reflecting good cohesion and strong thinking. All members were seen to bring value to the table in terms of knowledge and skills along the lines of strategic planning, engineering, environmental management, horticulture and local knowledge. The project hosted three project coordinators over the duration, each of whom brought specific skills

that matched the stage of the project: research skills in the early stage, technical expertise in the second stage, and community engagement, environmental policy and project managements in the third stage.

### 4.3 DEVELOPMENT OF THE CLIMATE CHANGE ADAPTATION PLAN

The development of the Resilient South Regional Climate Change Adaptation Plan was undertaken over three stages:

1. Development of a regional profile and climate change scenarios (what changes are expected); scoping change research and stakeholder engagement
2. Completion of an integrated vulnerability assessment
3. Identification of adaptation responses (Regional Climate Change Adaptation Plan)

In addition to using climate change science as a foundation for the project, the team decided from the outset to draw on the social sciences, principally by way of using the Receptivity Model. The rationale was that by addressing each of the attributes in the model, there would be a greater chance of achieving organisational change necessary to support implementation the actions in the Regional Adaptation Plan.

### 4.4 STAKEHOLDER ENGAGEMENT

Stakeholder participation was embedded across all three stages of the project. Stakeholder organisations were sought across the following three domains:

- Economic and infrastructure (energy and water, waste, tourism, transport, food and wine, infrastructure and urban areas, manufacturing and services);
- Environment and natural resources (water resources, coastal management, biodiversity);
- Social and community (community health and individual wellbeing, emergency management, culture and heritage).

Stakeholders (project champions) were sought at organisation, group and club level rather than individuals and households; this was based on the idea that if community organisations change, this change will filter down to the broader community level. Careful consideration was given to sectoral and industry gaps in climate change engagement for targeted engagement in the project.

A preliminary telephone survey was undertaken with identified stakeholders as a lead in process and to better understand how organisations absorb information and make change, their level of awareness of a changing climate and the perceived barriers and opportunities to change.

**Stage 1 Values Mapping:** This involved an initial large cross-sectoral stakeholder group comprised of 141 participants in 24 stakeholder workshops grouped by sector and/or similar interests. Participants contributed to the development of a set of regional values (organisational-level) that formed the basis for identifying indicators to be assessed in the IVA. A short questionnaire was administered, followed by a facilitated discussion of responses. Face-to-face interviews with Council Mayors and CEOs also occurred at this stage.

**Stage 2 Integrated Vulnerability Assessment:** 56 Project Champions attended across three workshops for the IVA. The process involved an assessment of risks, opportunities and vulnerabilities and identifying key decision areas using the IVA framework. The process included the following:

- Three structured five hour workshops (one for each stakeholder domain);

- Subject matter experts were invited to attend to ensure relevant knowledge available to undertake IVA;
- Several one on one discussions with project champions who weren't able to attend the workshops or where specific topics were unable to be addressed by workshop participants (marine biodiversity, mental health, essential services and viticulture).
- Project champions were given 'take away activities' designed to engage externally with organisations about climate change, vulnerability, adaptation and resilience.

The project team observed that some participants involved in this stage experienced some frustration because they wanted a high level of detail, whereas the project was pitched at a broader level.

**Stage 3 Adaptation pathways:** This involved around 80 project champions. Two workshops were held combining stakeholder domains. The focus was on the development of adaptation options and adaptation pathways, to form the basis of the Regional Adaptation Plan. The first workshop assessed potential adaptation options; the project team then used these to draft adaptation pathways for each key decision area. A second workshop provided an opportunity for the group as a whole to review, refine and confirm the draft adaptation pathways (undertaken in sector based smaller groups).

The project team noted that the number of (self-nominated) project champions increase across the Vulnerability Assessment and Adaptation Planning stages, signalled a growing enthusiasm across the life of the project. The team also noted that among the project champions (consulted participants) there were no 'climate change deniers'— all participants were genuinely interested.

The project team elected not to disseminate information prior to the first stakeholder workshop as they did not want to 'pre-empt' proceedings. Over the course of the project information about progress and other developments was disseminated by way of the Resilient South website and newsletters emailed to participants to keep them updated about the project outputs. The team noted that among the project champions (consulted participants) there were no 'climate change deniers'— all participants were genuinely interested.

The project team monitored workshop participants to identify who was attending, what their role was, and what sectors were being covered (e.g. to ensure that it was not all engineers, missing out on community development). To account for under-represented sectors, the team opted for a flexible engagement process, individually approaching identified stakeholders for input. They observed that while this might not have been as representative as hoped, it meant these sectors were included in some capacity which was better than no capacity.

Overall, there was a good turn out from government departments (noting they had to be there), less so from the private sector (tended not to see the benefit for their business, did not prioritise climate change adaptation planning, are often time poor). Those that were difficult to engage included the education sector - possibly due to project timing and people having busy schedule; the wine sector (they tended to consider that they were already 'switched on' in the area of climate change and did not need to attend); and Indigenous groups. The team observed that a sufficient 'hook' was not there for everyone, and that it is 'hard to make it real for some groups'.

## 4.5 PARTNERSHIPS AND NETWORKS

The central project partnership involved the four participating local government Councils, who have a historically strong relationship. The Resilient South branding was identified as a particularly positive and productive step in cementing the regional focus and identity of the partnership.

Local government was consulted about how the Councils operate, and what was feasible in Chamber in terms of framing climate change adaptation planning and actions. The project team believed it was important to understand that ‘there is a lot going on in local government and bigger picture that we’re working in’. Moreover, all Councils have their own internal processes that have to be recognised and accommodated.

It was noted that a fairly dominant characteristic of local government is that interest in climate change tends to be centred on a Council operations risk perspective and mutual liability, although there is also interest on the environmental side (a number of councils have an environmental plan) and asset management (how climate change affects services/core business). South Australian Councils have been required by LGA Mutual Liability Scheme to complete the corporate climate adaptation project; Onkaparinga and Marion received Local Adaptation Pathways funding to complete a similar process. The focus of this was on Council operations and has been used as a starting point for the regional project.

More broadly, relationships and networks were developed among participants throughout the workshopping process - the project team believe that people stayed involved in the process because they valued the development of these networks.

## 4.6 TOOLS AND RESOURCES

The **SA Climate Change Adaptation Framework** was identified as a significant driver for the project as a whole: ‘it provided the initial framework for the why and how of the project’. The Framework provided information and guidance regarding the required outputs, contractual processes, and developing a sector agreement with the SA Government.

The consultant engaged on the project used the **LGA’s climate adaptation planning guidelines**, modifying the final stage in developing a new methodology referenced to the Adaptation Pathways approach. A noted strength of the Framework and Guidelines was the provision for flexibility in how it is used and adapted for purpose.

The **annual showcase event** was considered to be highly valuable for sharing interesting information and networking with other projects. At the same time, it was observed that attendance at the showcase did not lead to any changes in how the Resilient South project was being undertaken, mainly because Resilient South ‘is out in front in this area and is well resourced.’ However, the importance of bringing people together in climate change adaptation planning space was highlighted.

The **NCCARF Conference** was reported to have been useful for networking with research institutions and identifying research to assist in the implementation of the plan.

## 4.7 USE OF TECHNICAL DETAIL ABOUT CLIMATE CHANGE SCENARIOS

The use of technical detail was seen as critical in setting the scientific foundation for the project. The team believed the modelling data ‘resonated’ with workshop participants; at the same time, they deliberately did not talk about ‘climate change’ per se, preferring to focus on pertinent trends and patterns in local conditions (e.g. increasing number of hot days and longer heat waves) as participants could more easily relate to something they had experienced. The team noted it was useful to draw in personal experience and observations about shifting conditions to make the conversation engaging and relevant; however, the principle project focus was on IPCC evidence.

An identified issue was the significant potential for variation in the modelling, with no real guidelines around where to ‘pitch the argument’. In the absence of guidance, Resilient South opted for the middle line.

## 4.8 USE OF VULNERABILITY, ADAPTIVE CAPACITY AND RESILIENCE AS KEY CONCEPTS

The project team believed that people involved in the workshops understood and related to the concepts of vulnerability and adaptive capacity (including the terminology). This was particularly true for those from the Community Development domain for whom language around vulnerability and resilience was familiar. However it was noted that participants from the more scientific domains took a while to 'come around' to using these terms in a qualitative way.

## 4.9 CHALLENGES AND LESSONS LEARNED

A notable barrier was securing a slot on the Council agenda at certain points of the year; competing issues included local government elections, being in caretaker mode, and negotiating very full agendas and strict timelines.

Some groups were found to be particularly difficult to engage in the process – in these instances the project team worked on alternative strategies to achieve cut through (e.g. one on one targeted interviews), but feel they still missed some key players e.g. schools, some businesses, the wine industry and Indigenous people. Potential reasons included time/timing pressures (i.e. people were too busy to participate and/or the workshops conflicted with 'crunch times' in the industry, e.g. during wine harvest season); in some cases there was an industry perception that they have 'been there and done that' in relation to climate change adaptation planning (e.g. the wine industry); and some may have been deniers. In the case of Indigenous people, it was considered that to some extent these stakeholders feel over-consulted and may be time poor because of this, also possibly the process was too bureaucratic; however the team was not sure why this was unsuccessful. The time poor factor also was also seen to apply in the business context, however the project team tried to couch climate change in business terms to increase the relevance and people's ability to relate anticipated impacts to their specific area of interest.

A further issue was that the project was not realising the desired high level buy in; participants were targeted at a senior sector level however CEOs (particularly in the business sector) tended to 'handball down the line'. This meant the project struggled to get the right people (as opposed to the requisite sectors) involved. The lack of executive buy in was mainly a factor at the state government level where the project needed buy in for effective implementation of many of the adaptation options.

The project was reported to have had good buy in at the local level generally (up through senior ranks), however there was a serious 'disconnect' at State level. There was particularly good engagement with the environmental sector (DEWNR, Adelaide & Mt Lofty Ranges NRM Board, Coastal Management Branch were all strongly involved, and appear committed to following through to the implementation stage). However, the project struggled to connect with other state agencies such as DPTI, especially the Planning Branch. Involvement of Planning was seen to be integral as there are elements of planning reform in each key decision area pathway and state planning legislation is crucial to how the project can go forward. A contributing factor was that the State level Strategic Reference Group was intended to provide access to high level state agency representatives (e.g. CEOs, managers, senior project officer level) however this transpired to be officer level. Subsequently there was not enough senior buy in from State Agencies to support implementation. Turnover in Department staff was identified as an issue; moreover, project representatives were not invited to attend executive meetings (although Rohan Hamden was in attendance).

Another problem is the key disconnect between state policies: for instance, the 30 Year Plan for Greater Adelaide identifies growth but this is not coordinated or aligned with sustainability plans. DEWNR is seen as planning in isolation (although patently impacted by staff cuts). It was also observed that the Federal government has a tendency to put

money into planning but not into implementation. A key issue is the lack of consistent government direction – they are prone to ‘flip flop’ on decisions and priorities. National and State government settings are impacting on local government capacity to drive change.

There is considerable uncertainty about the future of the project post the Adaptation Planning stage. The project itself is seen to have significant momentum, however State Government commitment and assistance is crucial as a substantial number of the stipulated actions fall within the State Government remit. It was noted that the Climate Change Adaptation Plan needs ‘more policy drive to get implemented’. Uncertainty regarding long-term employment for project managers is seen as part of this issue; with turn over due to work insecurity posing a continuity problem for projects.

Resilient South is currently formulating a plan to take the project to the next stage of implementation on the back of significant concerns about it ‘falling into a hole’. With no articulated support from State Government about funding implementation, Resilient South has taken initiative in seeking funding from alternative sources, e.g. the Rockefeller Foundation and LGA Climate Adaptation Risk Fund (although neither proved successful). The team is also talking to the NRM Board about opportunities and identifying people who are willing and able to apply pressure up through the ranks of government as regions progressively complete their plans. Resilient South is very interested to hear what other regions are experiencing, thinking, and planning in this space.

The project team identified a range of key lessons learned over the course of the project. These included the following:

- The face to face element of the workshops was critically important to the process, in terms of engaging interest and fostering networking. The interaction between participants was a highlight of the process, with participants deriving value from talking through various issues with other organisations and sectors.
- It was useful to highlight commonalities across stakeholder groups and to focus on ‘learning across the region’. In particular the project team and the participants were intent on ‘not reinventing the wheel’, but rather coming up with informed and innovative solutions for the region.
- Avoiding getting caught up in the ‘climate change debate’ was a significant choice; the team found it much more productive to use rigorous science and data to flag relevant risks and changes leading into the future.
- The IVA process focused on risks rather than opportunities, which translated to the Adaptation Plan being ‘light on climate change related opportunities’. In retrospect, the team would have changed this orientation from the very outset of the project.
- It is vital to understand the Plan as an ongoing document that needs to be continually reviewed and updated; it needs to stay in touch with evolving State priorities and policies – otherwise there is a risk that the Heads of Agreement collaboration will disintegrate.

#### 4.10 BENEFITS AND EARLY ACTIONS FLOWING FROM THE PROCESS

The project was seen to be ‘reinforcing what is already happening in the region’, for example with reference to current activity in the areas of dune management and revegetation (noting that the Plan has only been in place for four months). A newer aspect has been commencing a conversation with business (especially SMEs), and with council Economic Development Managers at local government level about responding to various climate change related impacts in business continuity planning (e.g. around the availability of electricity, Work Health and Safety concerns for outdoor workers in light of



increasing heatwaves, etc). This is seen as a process of 'opening thinking up' about these issues in the business community.

The project team were unsure how the exercise of engaging stakeholders in the workshops would translate into these stakeholders taking the learning and messages back to their networks, and initiating a program of action within these networks – this was characterised as an 'unknown'. They were aware of one Onkaparinga Community Development officer taking the workshop exercise back into the community network, specifically to prompt a conversation at that level.

## 5 CASE STUDY 4: CLIMATE CHANGE ADAPTATION PLAN FOR THE SA MURRAY-DARLING BASIN

### 5.1 CONTEXT

Development of the Murray-Darling Basin Climate Change Adaptation Plan was an initiative of the South Australian Murray-Darling Basin Natural Resources Management Board (hereafter 'the board'), Regional Development Australia (RDA) Murraylands and Riverland, Murray Mallee Zone Emergency Management Committee, Murray Mallee Local Government Association (LGA) and the Department of Environment, Water and Natural Resources (DEWNR). The board has led the project, which includes developing an associated sector agreement with the State Government (MA Siebentritt, Halsey, Meyer, & Williams, 2014).

Climate change adaptation was already a strong focus of the Board and regional community owing to the associated with the Millennium Drought (1995-2009) and the drying up of the lakes. Most people (farmers through to environmentalists) realise there is a need for adaptation planning and as such the project has had strong support.

A number of preceding projects have underpinned the course of the current project:

- The *Strengthening Basin Communities* partnership between the SA Murray Darling Basin Natural Resources Management (NRM) Board and the Murray and Mallee LGA (representing 11 Councils) examined the impact of climate change on the SA Murray Darling Basin region and dependent communities (Rissik & Reis, 2013). This culminated in the *Adaptation and Emerging Opportunities Plan for the SAMDB Region* (2011) and the *Climate Change Adaptation Project impact assessment* (2011).
- Gap identification of the climate change impacts on the SA Murray Darling Basin region (2012).

Complementary regional processes and plans have contributed to the development of the current plan, particularly with respect to developing an integrated climate change planning approach, for example:

- SAMDB NRM Plan (volume A – Strategic Plan)
- Murray Mallee Zone Emergency Plan
- RDA Murraylands and Riverland Regional Roadmap
- Murray and Mallee Regional Public Health Plan

In 2009 the board established a number of asset-based targets in relation to water, land, biodiversity, people, and atmosphere. While not all targets were specifically climate change driven, the creation of Atmosphere Targets was new and other targets helped preserve environmental assets and build resilience. Resources were allocated to appoint a 0.4FTE position to assist project delivery on two targets related to internal efficiencies and climate change planning for natural resources managers. A review of the board's carbon footprint provided a baseline for internal efficiency actions. Additional funding was sought to include climate change adaptation in the planning process for Natural Resources South Australian Murray Darling Basin (Natural Resources SA MDB).

Brenton Lewis from RDA and Rohan Hamden (DEWNR) provided key support for accessing funding from the Natural Disaster Resilience Fund for a regional climate change adaptation planning project. The SA Murray Darling Basin NRM Region was chosen as the spatial area for the adaptation plan, driven in part by the SA MDB NRM Board but also because this region has defined ecological communities.

The decision to pursue Regional Sector Agreements was made around six months into the project. Signatories include the SA MDB NRM Board and RDA Board and 12 out of 15 Local Governments. Victor Harbour declined because they have a very small number of properties present within this region (they are more closely linked to the Fleurieu peninsula). The Ngarrindjeri Regional Authority also decided against signing a Regional Sector Agreement as they felt they already had sufficient agreements in place to participate in the discussions.

Regional Sector Agreement (the agreement) wording is currently being finalised by Natural Resources SA MDB before being sent to the Minister for Sustainability, Environment and Conservation for endorsement. The agreement facilitates the alignment of regional projects and priority areas with those of the DEWNR climate change unit. The agreement is non-binding but improves the likelihood of securing future project funding; this is an important driver of regional cooperation.

## 5.2 PROJECT GOVERNANCE AND ADMINISTRATION

The steering committee was established for the project, however many of the people involved had existing relationships (non-formal). As the majority of the eight key responsibility areas were related to natural resource management, it made sense for Natural Resources SA MDB to lead the process; however all committee members identified with dimensions of the project.

Members of the committee included:

- Ranges to River NRM Group
- Landscape Services NRM
- RDA (Brenton Lewis, also the Mayor of Murray Bridge)
- Superintendent from SAPOL
- State Emergency Management Committee (SAFECOM)
- SA Country Health
- Ngarrindjeri Regional Authority
- Murray Mallee LGA
- DEWNR
- Project Manager (NRM Board)

RDA Murraylands and Riverland and the NRM Board brainstormed who should be on the steering committee, targeting key players early (LGA, RDA and NRM). This aligned with the application for NDRP funding for Phase 1 of the project. Letters of support were received from the Environment Institute at Adelaide University and from RDA, SA MDB NRM Board, LGA SA, and Emergency Services, which assisted in getting these stakeholders involved on the steering committee. SA Country Health and Indigenous representation was achieved later.

Steering Committee members brought their own expertise and connections to the table (some are farmers in addition to their formal roles) and were expected to contribute according to their professional capacities. Members were provided with technical information and were not expected to be experts in the science. Steering committee members played a role in identifying who to invite to the workshops, with a deliberate focus on addressing gaps in representation. The idea was to target sectors that the committee wanted to strengthen.

The Steering Committee met bi-monthly; members attended regularly with an occasional replacement representative. The committee was given flexibility its approach. The RDA representative (Brenton Lewis) was a key project leader and 'Champion' throughout the process, being well known and connected in government circles, the tourism and

rejuvenation sectors, and through general involvement in climate change related projects.

Some people were supported for travel costs, which was necessary for their attendance. One person was resourced for provision of technical services (contracted), paid for time expended and deliverables. Resources were also provided to support Indigenous participation in the project.

The committee did experience some conflicts, for example levels of certainty of the climate predictions (e.g. low certainty of the projected rainfall numbers) took considerable debate to resolve. The group worked hard to recognise each other's roles, even while working in their own spaces.

To some extent committee members served as a conduit to return information and ideas for their particular sectors and networks, however it was reflected that this could have been done better.

### 5.3 CLIMATE CHANGE ADAPTATION PLAN PROCESS

The project was undertaken across three stages:

1. Values mapping and key decision timeline analysis to identify priority indicators for a vulnerability assessment. Involved stakeholder interviews, workshops in Murray Bridge and Loxton.
2. Integrated Vulnerability Assessment (IVA) to identify key areas of decision making: workshops in Murray Bridge and Loxton.
3. Identification and prioritisation of adaptation options within and between sectors: workshops in Murray Bridge, Waikerie and Adelaide (to include stakeholders from essential services sector).

In total, eighteen forums/workshops and meetings were held to give project presentations and gather stakeholder feedback. These were targeted to particular sectors, although occasionally sectors were combined where there were deemed to be similar issues and interests.

In the first stage of the project regional stakeholders were engaged and briefed about the intent and process, climate scientists were engaged to present pertinent information, and gap identification was undertaken. This commenced a process of developing understanding about what needed to be done, and what information was needed to fill gaps.

In the second stage, Mark Siebentritt was engaged as a consultant due to his contacts in the field, and this constituted a turning point in getting councils involved (picking up on some of the work Mark had done in 2008-2011 for the Strengthening Basin Communities Program, energy security assessment of the region, examining energy risk). The list of key people to involve was refined at this point. Nicole Halsey (from Mark's team) developed a Communication Engagement Strategy which teased out some of barriers to participation (e.g. seeding crops in winter a barrier for farmers, fighting fires in summer a barrier for emergency services personnel). This exercise identified that representation of Mallee farmers was weak, so the project ran a separate workshop in tandem with an event run for the farmers by PIRSA; this piggy-backing approach was particularly useful for accessing an otherwise hard to reach sector.

Rachel Williams (from National Disaster Resilience Fund) attended the three workshops that were run with Mark as a part of Stage 3, and performed an internal review of the workshops.

## 5.4 STAKEHOLDER ENGAGEMENT

The first stage of the project was guided by the Prospering in a Changing Climate, SA Adaptation Framework (2012); key influences in the SA Murray Darling Basin NRM region were mapped against the 12 key sectors identified in the Framework. Influences included irrigation, agriculture, horticulture, health, emergency services, essential services such as SA Water and SA Power Networks, Ngarrindjeri people, and mining.

Around 150 stakeholders participated from key sectors across the region including agriculture, tourism, natural resources management, emergency services management, health care and community services to attend interviews and workshops. There was a particular focus on inviting participants from groups that traditionally would not have attended these types of events and where there were identified gaps in knowledge. The SA MDB NRM approached RDA and Emergency Services (in parallel with Zone Emergency Management Plan development), Country Health SA, and occupational groups such as Tourism, the Irrigation Trust and SAPOL to identify key people within these sectors. Tailored consultations were undertaken with traditional owners and Aboriginal communities. Businesses were engaged principally through the RDA. The strategic level project focus meant that it was important to work closely with umbrella bodies, with influence filtering down from this level.

The community engagement process involved identifying 'project champions' from among influential community members. A list of approximately 22 champions was developed from across more than 12 sectors; of these around ten participated in interviews or came to workshops. Champions' interviews formed part of initial consultation process conducted by the consultant to gather information about their sector/enterprise, with the intention that they feed information back into their constituencies. Champions were subsequently invited to attend the workshops and the final launch. One of the most successful examples was the involvement of the Youth Ambassador, who saw the process as contributing to her future prospects. A key lesson was to use the Champions well but sparingly – to not place too high a burden on them.

Participants were provided with information about the terms and scope of the project and what was expected from them. Climate scientists were brought in at certain points to discuss relevant issues (e.g. the impact of weeds on crops as a result of climate change) and to regionalise climate data; however, the main emphasis was on gathering information from stakeholders and identifying gaps that needed to be addressed.

The IPCC report contains a number of key items supporting the involvement of Indigenous people in order to draw on their local knowledge about dealing with the experience of climate change over time. The Kungun Ngarrindjeri Yunnan (KNY) Agreement seeks to enable active participation of the Ngarrindjeri people in caring for the region by making Ngarrindjeri cultural values integral to the planning and management of land and water resources. The Kungun Ngarrindjeri Yunnan (KNY) Agreement was signed by the Government of South Australia and the Ngarrindjeri Regional Authority (NRA). To this effect, the SA MDB NRM Board actively consults with the Ngarrindjeri across a range of areas and interests, for example cultural waters and preservation of scar and canoe trees. Connecting with the Ngarrindjeri on planning for the impacts of climate change is interwoven with these broader issues. For the Ngarrindjeri people, it is 'not about the parts, but the whole'. There are different groupings of Ngarrindjeri people so the project had to have different working relationships with these diverse groups.

A separate, tailored consultation process involving meeting as a group and arriving at consensus was used to engage the Ngarrindjeri people, who got 'right behind the project' because they related strongly to the theme of asset preservation from climate change impacts, for example preserving their fishing holes and basket weaving plants (noting that assets were not seen as separate items, necessitating more holistic thinking). Indigenous participants were also seen to respond well to the values mapping exercise. Natural

Resources SA MDB provided financial resources for the Ngarrindjeri people to gather their information and present assets, values and impacts from an indigenous perspective. It was noted that it is difficult to 'write' this into conventional plans, hence there is a separate section for Ngarrindjeri people in the plan, with their values incorporated throughout.

Involving the RDA was the most effective way to engage business stakeholders in the project. The project team had tried other methods such as phoning key industries and asking for a representative to attend and general email invites however these proved less successful, possibly because the targeted industries felt they had climate change 'under control', or did not see the relevance to their activities. The manufacturing and mining sectors did not participate and this is assumed there was not sufficient value to them (i.e. there was not a sufficient 'hook' to pull them in).

More generally, the number of groups involved increased over the three stages of the project, as key people were identified, contacted and engaged. It tended to be the sub-managers (those responsible for delivering projects) who attended the workshops.

## 5.5 PARTNERSHIPS AND NETWORKS

There is a current process of bridge building taking place between local government and NRM SAMDB, building on a recent collaboration between eleven councils and NRM SAMDB in developing their water management plans. NRM SAMDB has been active in attending local government meetings and generating goodwill, which is important as councils collect the NRM levy. There is also increasing awareness in local government that partnering with bodies such as regional NRM is important for securing project funding into the future; this has assisted the Murray-Darling Basin Climate Change Adaptation Plan SA MDB climate change adaptation planning process.

The strength of the Ngarrindjeri partnership has been a key feature of the project.

## 5.6 TOOLS AND RESOURCES

The **SA Climate Change Adaptation Framework** was a key driver of the project. It was useful in helping to identify the sectors that needed to be targeted, however it is likely that additional sectoral subsets could have been involved but were not on the list.

The **LGA Planning Guidelines** have been revised and a new template developed; NRM SAMDB has adapted this for its own purpose most recently using the action table to develop workshop materials for year 1-2 projects.

The **Annual Showcase Events** have been useful for building networks and learning about what other regions are doing. For example, Resilient South has used an entirely different approach to community engagement and knowledge gap identification; in comparison SAMDB's approach is 'more stodgy and generic'. The Showcase Events were particularly beneficial from a professional development point of view [providing the project manager an opportunity to present about the SAMDB project].

The 'excess heat factor analysis' done by CSIRO was useful from a long-term perspective as threats from the numbers of heatwaves and intensity will not come into force for around a decade.

## 5.7 USE OF TECHNICAL DETAIL ABOUT CLIMATE CHANGE SCENARIOS

The SAMDB project used the medium scenarios of 2030, 2050 and 2070, which identified seemingly conservative climate changes (an average of 2-3 degrees, with natural variation of around 10 degrees either side) that were quite 'hard to sell' as significant. Changes would be better explained by placing in the context that 'today's hot days will be the cold to cooler days in 30 years' time).

Darren Ray from the Bureau of Meteorology reviewed the SAMDB Adaptation Plan climate scenarios work by SKM – which used the 6 SAMDB weather stations to get a regional picture of climate change scenarios. This information was then presented in the workshop process. The information about sea level rise (half to one metre by end this century) was ‘the biggest eye-opener for the workshop attendees’, whereas the heat and rainfall scenarios did not achieve the same reaction as they were perceived as less dramatic. It was useful in this context to use the ideas of Mark Stafford Smith (CSIRO) about timeframe/timeline thinking for the region. This was useful way of presenting the relevant and interesting information to the community as they could see how the design of infrastructure may be affected by climate change (e.g. in considering road construction). This achieved good traction with local government planning people at the workshops.

## 5.8 USE OF VULNERABILITY, ADAPTIVE CAPACITY AND RESILIENCE AS KEY CONCEPTS

During the course of the project there was a shift from use of the concept of vulnerability towards the concept of resilience as the latter was more meaningful to most people. It was useful to focus on logical processes (‘what to do’ and timeframes) supported by background information. The notion of ‘exposure’ as used in the IPCC model was effectively used in the SAMDB process. Great care had to be taken with the language used in order to engage people, however there was general acceptance that ‘climate change is with us now’.

## 5.9 CHALLENGES AND LESSONS LEARNED

The Integrated Vulnerability Assessment was not seen to be a useful driver for communicating Adaptation Planning (but the information from it was): ‘It was in the background, it wasn’t mentioned much later in the process because it doesn’t have much meaning to people’. It was believed to be neither accessible nor an easily understood document and would have presented better as a ‘risk assessment’ rather than a ‘vulnerability assessment’. The problem was not with the IVA process, but with the overly-bureaucratic terminology. Due to the lack of traction gained by the IVA, the process was re-badged as Building Resilience. This had greater impact as most people understood the definition and could relate to being resilient.

Rather than tackling the most challenging aspects of climate change adaptation first, a more practical approach is to identify ‘win-win’ situations to achieve early successes. Moreover, one or two year projects seem to fit best with the funding cycles and sector agreement format.

Some groups believe they are prepared for climate change and this view has not changed throughout the adaptation planning process. Local government dynamics have not really affected the development of the adaptation plan, however there have been ramifications for securing the Regional Sector Agreement, particularly in negotiating twelve councils’ input on preferred wording.

Funding was identified as a major barrier to plan implementation. Climate change adaptation planning has been well funded at a state and national level, however a lack of funding for implementation at both state and federal level is a risk (acknowledged by the Climate Change Unit). A further concern is the lack of a strong policy driver or regulatory body for climate action.

There were no specific regional barriers, though the project could have been improved by having more ‘key influencers’ connected with the project to give it a stronger profile and more leverage with different stakeholder groups. The next step – and big challenge - will be getting the attention of some of the major players like mining. An associated challenge will be securing project staff to keep the project alive and moving forward: ‘The Project

Leader role (Greg) finishes in December 2014 so (at the time of this interview) the project won't have anyone driving the process from then on'.

## 5.10 BENEFITS AND EARLY ACTIONS FLOWING FROM THE PROCESS

The project built on an existing stakeholder interest in aligning funding opportunities with the adaptation needs, for example referencing climate change related project applications to the LGA Mutual Liability Scheme by way of reducing the risk of insurance claims and associated losses for Councils.

A bushfire recovery plan project has been proposed that aligns with regional adaptation plan priorities. Other priorities identified in the plan are being incorporated into Natural Resources SAMDB's operational planning to guide the Board's annual investment priorities. An evaluation of the extent to which the adaptation planning process and priorities influence the actions of Natural Resources SAMDB and project partners should be undertaken after the next planning period.

In terms of significant achievements, the strong functioning of the groups around the steering committee table has been an exceptional outcome and has demonstrated the value of Natural Resources SA MDB establishing partnerships outside those traditionally associated with natural resource management. Natural Resources SA MDB succeeded in bringing together the different sectors and stakeholders, assisted by selecting an effective consultant to support the process. The project produced a robust plan that identified 'enablers' and 'barriers' to climate adaptation, however further work to clarify and progress roles and responsibilities for implementing the plan and dealing with barriers to implementation is needed.

A key driver of success is developing community understanding about the importance of building climate change adaptation into their planning now as opposed to 'down the track sometime'. A useful way to do this is to highlight current examples of proactive planning and the benefits this has accrued. For example Paris Creek installed solar hot water infrastructure which was reported to have dramatically improved process efficiencies, showing up as good business planning.

Learning from other regions is important, as is gaining the perspectives of diverse sectors and charting a balanced line between various interests. Ongoing inter-sectoral discussions are particularly important for avoiding mal-adaptation, where decisions can have variable impacts (positive and negative) on different sectors. Moreover, the project must demonstrate relevance for each and every stakeholder involved. This includes giving rise to worthwhile projects in the present and leading into the future.

## 6 DISCUSSION

The South Australian Adaptation Framework provides guidance on how South Australia can adapt to climate change, with a key feature being the requirement to develop Regional Adaptation Plans (RAPs). The regions that have completed plans so far are diverse in terms of key sectors and geographic coverage and so provide an opportunity to compare observations about how to conduct adaptation planning in practice.

Based on project objectives, nine questions were posed as part of the interview stage with regional representatives, from which five key themes emerged. The themes revealed that the way the planning processes are delivered has a major influence on the outcomes of the project, which are largely independent of the technical aspects of how an adaptation plan can be developed (e.g. extent to which a risk based focus is adopted, choice of climate projection data etc.).



## 6.1 PROJECT GOVERNANCE

The case studies consistently identified elements of project governance and administration as essential to successful development of a RAP. This is separate to how stakeholders from different sectors are engaged in the development of a plan and relates strongly to the formation and operation of steering committees or similar governance structures. While no ranking has been given to the key themes that emerged from comparing plans, project governance was clearly a focus of much of the commentary.

Principle observations from comparing RAPs identified the importance of:

- achieving sector or organisational commitment, commonly referred to as “buy in”;
- participants, organisations or sectors involved with project governance having a history of working together (formal or informal);
- demonstrating that the development of a plan is genuinely cross sectoral, addressing social, economic and environmental issues; and
- State Government facilitation and support to initiate the development of RAP.

Project steering committees were found to be successful when members showed genuine commitment to a project or the adaptation planning process. Where a sector or organisation was well engaged, it was often through the involvement of a person or people who:

- were well connected in their sector, either because they themselves were a recognised leader or were well connected with leaders;
- are able to effectively share and communicate information about a project; and/or
- have broad geographic coverage in their network.

The issue of geographic coverage is mostly relevant to regional areas of the State, where only a limited number of people may have networks that cover an entire region.

Suggested strategies by regions to identify and then sufficiently engage the most suitable person from a sector include:

- securing a signed agreement with the relevant member’s CEO regarding participation;
- defining expectations regarding the commitment involved (e.g. expectation to attend meetings and report information back to their organisations or sectors);
- insisting that no proxies are allowed to attend meetings.

While identifying individuals that are well connected and committed to a project is important, this study also found that well established, working relationships were essential. In a number of regions, the steering committee that oversaw the development of the RAP had either existed itself for a number of years or, the members had previously worked together on other projects. The implication of this observation is that where an existing governance body does not already exist, it may take time for a new body to form and start to operate effectively.

Rather than establishing a new governance arrangement, using existing cross sectoral governance bodies that may not have a sole focus on climate change planning, but do have a history of working together may be a better alternative. An example of this is the Northern and Yorke Alliance, which brings together the interest of Local Government, regional development (industry) and natural resource management in the region. This has the additional advantage of ensuring that the development of the plan is truly cross-sectoral and relevant to social, economic and environmental considerations.

## 6.2 THE PLANNING PROCESS

The State Adaptation Framework provides general guidance on what is required in a RAP, which is primarily that it be informed by an integrated vulnerability assessment. The framework also refers to the LGA Climate Adaptation Planning Guidelines, which outline steps that can be followed in developing a RAP. However, the fact that the Framework did not mandate a set approach meant that each region could modify their process to best suit their local conditions.

The flexibility in process meant that different emphasis was given to different approaches across the case study regions. For example, the Northern and Yorke planning process had greater emphasis on undertaking an integrated vulnerability assessment process, the Eyre Peninsula project adopted a greater focus on adaptation pathways, while Resilient South had a balance of these approaches across the project. Despite the differences in approach, it became apparent that each planning process still arrived at an end point with prioritised actions. The flexibility in process therefore meant that regions could select the approach that best suited their local stakeholders.

In comparing planning processes across regions, observations were also made about the success of planning. While success is often judged by whether clear actions have been identified with assigned resources and responsibilities, there was recognition that the planning process was as important as the list of resulting actions for two reasons. First, it provided an opportunity to build capacity amongst stakeholders and an understanding of the methods available for climate change planning, which could then be disseminated back into key sectors to assist with their own planning processes. Second, the process, regardless of approach, provided an opportunity to bring different stakeholders together to develop a common direction.

Separate to common elements such as integrated vulnerability assessments and adoption of adaptation pathways, regions identified a number of other features of successful approaches, such as:

- undertaking a comprehensive values analysis at the outset of a project;
- developing a thorough understanding of the decision-making mechanisms of stakeholder organisations.

Despite the success of the Framework and the flexibility of the process, there was agreement that clearer direction is needed to assist with implementation once the planning process is complete. This includes assistance to identify resources and organisations that will take responsibility for implementation.

## 6.3 STAKEHOLDER ENGAGEMENT

One of the primary aims of this study was to better understand what approaches to stakeholder engagement were most effective. Engagement with stakeholders is recognised as essential for planning and is also required under the State Adaptation Framework however the approach to engagement is not specified. Despite this, all regions arrived at a similar conclusion that targeted rather than broad engagement was more appropriate. This led to a focus on leaders, influencers and connectors, ensuring that there was an adequate mix of private, community, local government and government sectors.

This targeted approach was influenced by a “filter down” tactic, with the aim being that targeted stakeholders would disseminate information and lead action within their communities. It was noted though that this would only occur where the broader community respected those in leadership positions, could understand and relate to the messages being delivered, and could see the relevance and value of proposed actions.

While identifying stakeholders could be done in a structured way, having them attend and participate in engagement activities such as workshops or interviews often proved a challenge. This was addressed by identifying the motivation or 'hook' for engaging different stakeholders. For example, a focus on mutual liability (insurance) was effective in getting Council stakeholders engaged because of their need to consider risk in management of assets and delivery of services.

Aside from identifying the motivation for people to attend, it was also found to be important to set realistic expectations about community consultation and people's preparedness to attend events, particularly in a context where many stakeholders feel 'over-planned'. In this instance, a better way to achieve participation was to:

- attend events being held by other stakeholder groups; and
- identify an independent project the climate change adaptation planning project team can work on in collaboration with the stakeholder.

Regions noted that engagement and representation in action on climate change might also increase once actions were implemented allowing stakeholders to increase their interest and better understand potential benefits.

## 6.4 TECHNICAL DETAIL

Climate change planning traditionally commences with an exploration of the potential impact of climate change on a region or key sectors. This involves discussions about projections for a range of variables such as temperature and rainfall based on the results of different climate models, emission scenarios and timeframes. While these projections are required as inputs for conducting an integrated vulnerability assessment, it was found that highly detailed information was not necessarily required to complete development of a RAP. For example, the Eyre Peninsula adaptation planning process found that a focus on trends (e.g. "higher, drier and warmer") was just as useful for engaging stakeholders.

Despite the ability to complete planning processes with trend information, detailed climate projection data was made available for the majority of regions. The extent to which detailed data was required was largely influenced by the questions being asked and sectors involved. For example, in some instances social and community sectors were as interested in the suggestion that the frequency of heatwaves would increase as they were in the percentage change in frequency. In contrast, Councils with coastal infrastructure or high bushfire risk areas were interested in more detailed projections, knowing that this links with risk profiles for asset management. This highlights that different sectors have different insights into the sensitivity of their operations to climate variables.

For those sectors with an interest in more detailed data sets, there is an opportunity to better explore the range of potential impacts. This is possible because of the ability to consider the variability in outputs of climate projections. However, this type of analysis did not occur in any of the RAPs and therefore needs to be a focus of future sector specific planning.

One aspect of the data sets that was often discussed was the projection timeframes. This became relevant during the integrated vulnerability assessment stage where the process requires that certain projections are selected to use as an input for the assessment. For example, the Northern and Yorke region used 2030 projections because they better aligned with the planning horizons of decision makers. However, this had the consequence of potential impacts appearing relatively minor when compared with impacts for projections toward 2100.

The selection of timeframe differed for other regions who used a decision timeline approach based on Staff Smith et al. (2010). This recognised that many decisions made today have long lifetimes (e.g. building major infrastructure such as bridges, roads,

suburbs) and need to account for conditions 50-100 years in the future. As such, other regions selected timeframes of 2070 for planning purposes.

## 6.5 CLIMATE CHANGE CONCEPTS

Climate change science and planning is rich in jargon and many concepts and terminology are not easily understood or commonly used by stakeholders. Regions that have completed their RAPs raised two issues relating to climate change concepts: narrative and transferability of concepts across sectors.

Narrative relates to the way key messages are connected to communicate the purpose of the plan. Regions found that a narrative solely focussed on developing a plan because it was required under the State Adaptation Framework was insufficient and instead needed to be connected with key values of stakeholders in a region. It was noted that *'we have to learn and practice how to have the conversation about climate change; about what projections mean at a regional scale, in the near and long term future. This includes helping specific decision makers work with them, understand and be comfortable with [the] limitations [of modelling]s'*.

As part of understanding the role of the narrative, it was necessary to understand how this can be influenced by emerging concepts. For example, climate change planning has firmly advanced from the notion of moving beyond 'business as usual' toward greater discussions about the need for transformational change. Yet creating a successful narrative that embraces a concept like transformation can be challenging, given that many stakeholders are seeking to prevent change rather than embrace it.

Another aspect to building the project narrative and in framing planning processes in general is understanding the transferability of concepts between sectors. Regions highlighted the need to clearly explain and define the concepts being used, as concepts can have different meanings in different sectors. For example, resilience (which is the ability to withstand shock and remain within a threshold before tipping into a different state) can be understood quite differently by an ecologist and social scientist, relative to a biophysical or social system. This proved problematic when engagement processes were based on the assumption that concepts had a common interpretation. Based on this learning, the regions recommended establishing clear working definitions of concepts at project initiation.

Working with language and climate change related concepts also proved to be a key tool in engaging stakeholders. For example, regions found that Local Government stakeholders related well to language around risk and mutual liability – *'this is what drew them into the climate change space and they have carried this with them'*. In contrast, social service providers and natural resource managers related strongly to the idea of resilience, which could be viewed as resilient people, communities or ecosystems. It was also observed that using positive language, especially in relation to opportunities, worked well in community and business circles whereas a discussion about how 'vulnerable' a community was or could become was at times difficult to engage stakeholders with.

## 7 CONCLUSION

The State Adaptation Framework has successfully provided guidance for regions to develop cross sectoral climate change adaptation plans. However, by not being prescriptive about how the adaptation plans should be developed, it has allowed for innovation in the type of planning processes adopted and how they were delivered.

This study has revealed a number of common lessons from across projects in terms of governance, stakeholder engagement, choice of adaptation planning approaches, application of climate data and discussion about climate change concepts. Rather than

the choice of approach being the most important consideration (e.g. whether the focus is on risk based assessment), the experience of case study regions was that the way that governance arrangements are structured and stakeholders engaged are at least equally as important in developing a region's climate change adaptation plan.

Developing a narrative for a project that reflects local values and the meaning and applicability of climate change concepts for different stakeholder groups can be central to achieving buy-in, which ultimately influences the extent to which the actions in a plan will be embraced and implemented.

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the 1990s, the number of people with a diagnosis of schizophrenia has increased in many countries (1).

There is a growing awareness of the need to improve the quality of life of people with schizophrenia. This has led to a focus on the development of psychosocial interventions that can help to reduce the symptoms of schizophrenia and improve the social functioning of people with the condition (2).

One of the most widely used psychosocial interventions is cognitive behavioural therapy (CBT). CBT is a form of therapy that helps people to change their thoughts and behaviours. It is based on the idea that our thoughts, feelings and behaviours are all interconnected and can influence each other (3).

CBT has been shown to be effective in helping people with schizophrenia to manage their symptoms and improve their social functioning. It can help to reduce the risk of relapse and hospitalization (4).

There are a number of reasons why CBT is effective. One of the main reasons is that it helps people to develop coping strategies that can help them to manage their symptoms. CBT also helps to improve the social skills of people with schizophrenia, which can help them to build relationships and improve their quality of life (5).

There are a number of different CBT techniques that can be used to help people with schizophrenia. These include cognitive restructuring, which helps people to challenge and change their negative thoughts; exposure therapy, which helps people to face their fears and anxieties; and behavioural activation, which helps people to engage in activities that can improve their mood and social functioning (6).

CBT is a safe and effective form of therapy that can help people with schizophrenia to manage their symptoms and improve their quality of life. It is an important part of the treatment of schizophrenia and should be offered to all people with the condition (7).

There are a number of factors that can influence the effectiveness of CBT. These include the quality of the therapist, the length and frequency of the sessions, and the motivation of the person receiving the therapy (8).

It is important to note that CBT is not a cure for schizophrenia. It is a form of therapy that can help to manage the symptoms of the condition and improve the quality of life of people with schizophrenia. It should be used in conjunction with other forms of treatment, such as medication (9).

There are a number of resources available to help people with schizophrenia to access CBT. These include self-help books, online resources, and community groups. It is important to seek professional advice if you are considering CBT as a form of treatment (10).

CBT is a valuable form of therapy that can help people with schizophrenia to manage their symptoms and improve their quality of life. It is an important part of the treatment of schizophrenia and should be offered to all people with the condition (11).

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