

# Amplifying the Issues, Observations and Messages: Towards Priority Policy Actions

## Furthering the SEGRA Challenges for sustainable regions

### Context

The **SEGRA Challenge** was introduced as a new component of the conference program at Coffs Harbour for **SEGRA 2013**. The suite of challenge questions for **SEGRA 2013** were:

- How might regional branding grow regional economies?
- How might we best develop northern Australia?
- How might we maximise the opportunities of the Murray Darling Basin Plan?
- How might we create greater community resilience?
- How might we maximise design to create greater regional cities?
- How might we maximise leadership and governance capacity in regional Australia?

At **SEGRA 2013**, the Delegate's choice was: *How might we maximise the opportunities of the Murray Darling Basin Plan?* This challenge has been actively pursued by the champions and one of the key outcomes was holding **SEGRA 2015** at Charles Stuart University at Bathurst. Another outcome for the Murray-Darling Basin has seen the commencement of a collaborative research, professional development and communications network to support the implementation of the 2012 *Basin Plan* (pursuant to the *Commonwealth Water Act 2007*) from the 'bottom up'.

At **SEGRA 2014** the five challenge questions were:

- What matters to you and what are you going to do about it?
- What might be the most effective thing that **SEGRA** could say to impact on the long term approach to regional development in the Northern Territory?
- How might we best assess and influence regional policy from the coal face?
- How might we best develop indigenous economic development that demonstrates engagement in the regional economy?
- How might we best support single industry towns?

Etheridge Shire Council (ESC), in the Gulf Savannah Region of Far North Queensland, was voted the Delegates 'Challenge Champion' for **SEGRA 2014** with the question: *How might we Best Support Single Industry Towns?* Between conferences ESC has worked at local and regional scales on economic development and related strategies aimed at: ensuring resource optimisation; fostering economic consolidation; sustaining the social capital; and embracing technological take-up.

The question, *How might we Best Support Single Industry Towns?* provided a start point from which to explore some of the essential ingredients needed to renew, maintain and enhance rural and remote regional towns and settlements. Specifically, the roles that they have as hubs and nodes for networks in supporting sustainable regional development. In this context, Northern Australia development is focused by the need to strengthen or move to multi-industry regions and socially

and economically viable regional hubs and centres. Sustaining these centres requires investment in essential services by way of adequate and safe domestic water supply, appropriate waste water treatment and affordable electricity.

ESC has a geographic area of some 40 000 square kilometres and a population of about 1 000 people. Their successes over the past year in documenting and promoting the diverse resource base and investment opportunities demonstrates what remote LGAs can achieve when there is focussed commitment and sound leadership. And sustained effort is continuing to bring opportunities to commercial realities and to ensure essential services, livelihoods and lifestyles in local towns and rural properties are secured, as reflected in ESCs success with the **SEGRA 2015-16 Challenge**.

At **SEGRA 2015-16** 'Challenge Champions' and their supporters prepared cases and pitched for the following topics.

- How might we respond to carbon in the real world?
- How might we create diverse regional futures?
- How might we build leadership for the future?
- How might we deliver good governance in regional Australia by 2050?
- How might we provide secure and safe water for rural and remote regions?
- How might we develop startup/innovation ecosystems in regional Australia?

The ESC championed, *How might we provide secure and safe water for rural and remote regions?* was voted the Delegates Choice. The Judging Panel chose *How might we develop startup/innovation ecosystems in regional Australia?* Unlike past conferences, the challenge is to run until **SEGRA 2016** when the Challenge Champions will report on what has been achieved, and prizes will be awarded.

Commitment has been given by the other four Challenge Champions to pursue their respective challenges either as a specific topic or collaboratively by amalgamating topics. All six challenge questions, together with selected items from 2013 and 2014, are carried into the following suite of issues and suggestions for moving toward priority policy actions, under the following framework headings:

- Regions as places for people
- Regions as places for peoples endeavours
- Regions as places for resource optimisation and commercial innovation

## Regions as places for people

### 1. 'Place' in the perceptions, realities and importance of regional Australia

Place contributes more to human welfare than just material goods and services – place is where people live and play out their lives. Ten dimensions have been identified as the building blocks of prosperity in place and the things people care about namely: human resources; natural resources; physical capital; social capital; innovation; entrepreneurship; leadership; contributions to health and safety; material standards; and amenities (natural and local). Fostering regional identity (including badging) helps to clarify perceptions and realities and to build commercial and community confidence in regional futures.

#### ***Towards Priority Policy Actions***

There needs to be:

- A stronger policy orientation towards the role of 'place' in building regional prosperity. Specifically, in relation to the development and implementation of processes for citizen participation in rural and remote regions.
- Broader use of a variety of policy processes and instruments that relate to implementation and performance with particular vigilance against the tendency for unbalanced policy tenacity and commitment bias against rural and remote regions.
- Greater understanding needs to be developed around the differences in regional, remote and rural Australia in terms of social research with a greater emphasis on case studies versus modelling.
- Implementing regionally appropriate land use planning systems that emphasise 'place' and the inherent landscape and natural and human resources values

Regional policy in particular needs to avoid single sector area analysis and application in isolation (eg agriculture, health, disasters and environment) and look more closely at integrated political and socio-economic frameworks that are available across Australia. Specifically, policy instruments that are aimed at:

*Embedding 'place' in the perceptions, realities and importance of regional Australia.*

### 2. Regional landscapes as a reflection of the interplay of biophysical, social, economic, cultural attributes of the environment and the need to integrate them adaptively

Regional landscapes and their biophysical and socio-economic complexities have been highlighted in the 'Wentworth Group of Concerned Scientists' blueprint for a healthy environment and a productive economy as places. The blueprint sets out four steps for regional futures: fix land and water use issues; use markets; conserve natural capital; regionalise management; create environmental accounts. All require special attention. Particularly, in terms of their application in relation to

strategic and statutory planning regimes that are in place or intended, in order to cope with the pressures of sea level change and movement and settlement of people. 'Designing with nature' is still seen as the way forward to ensure the regional landscapes are utilised productively and ecosystem values are conserved and enhanced.

Delegates participating in the at the *Rural and Remote Regions Research Agenda* and the *Murray-Darling Round Table* at **SEGRA 2015** highlighted the issue that regional Australians do not have single shared values and understandings with respect to the environmental conditions of places and landscapes. Arguments were presented to support the contention that when examining regional landscapes, as a reflection of the interplay of biophysical, social, economic, cultural attributes of the environment, there needs to be a 'common language'.

Specifically, that there needs to be a clearer appreciation of the values behind terms such as natural resources and environment and their management. For example, natural resources are taken to be the physical and biological attributes of the lands and seas that are of direct economic use for human population groups living in the area, or expected to move into the area. Thus, they encompass the conditions of: near-surface weather and climates; soil and terrain; fresh and marine waters; and vegetation and animals in as far as they provide produce. And natural resources management (NRM) delivers these attributes as commercial commodities that have an economic value.

Environmental resources are taken to be those attributes of the lands and seas that have an intrinsic value of their own, either locally or at regional and global scales. As such, they influence human health and act as a long-term buffer against extreme weather events; occurrence of vectors of human or animal diseases. Remembering, that under Australian Government legislation, to quote from the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*, the term 'environment' includes:

- (a) ecosystems and their constituent parts, including people and communities; and
- (b) natural and physical resources; and
- (c) the qualities and characteristics of locations, places and areas; and
- (d) the social, economic and cultural aspects of a thing mentioned in paragraph (a), (b) or (c).

Further, pursuant to the EPBC Act *ecosystem means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit*. As such, one holistic word 'environment' encompasses the three terms used to say what the triple-bottom-line (economic, social, environment) covered. And to add to the semantic confusion, in some jurisdictions, environment is defined only in biophysical terms (ie to cover land, soils, air, water and biota).

Within this context, workshop and round table Delegates participating in the at the *Rural and Remote Regions Research Agenda* and the *Murray-Darling Round Table* acknowledged that environmental resource management (ERM) is apt for managing the interaction and impact of human societies on the environment. As such, it aims to ensure that ecosystem services are protected and maintained for future human generations and seeks to maintain ecosystem integrity through considering ethical, economic, and scientific (ecological) variables.

ERM includes identifying factors affected by conflicts that rise between meeting needs and protecting resources. Thus it is linked to environmental protection and sustainability. Most importantly, ERM is not, as the phrase might suggest, the management of the *environment* itself. At the regional landscape scale, ERM can underpin the goals of economic development strategies and how they play out in terms of understanding different values land use conflicts (biophysical, ecological, cultural, social and economic).

Delegates participating in the Research Agenda and the Round Table and in the Spotlight Session on *Production and Conservation Landscapes* agreed that regional landscapes reflect the interplay of biophysical, social, economic, cultural attributes of the environment and there is a need to integrate them adaptively. To that end, that ERM is an effective approach. However, this requires that the social and economic sides of adaptive management are sufficiently well understood and included in ERM and NRM practice at regional and local scales. And this is an imperative when major threats and risks to the conditions of regional landscapes, such as climatic changes, are taken into account.

For example, currently, much of contiguous western margins of Queensland and New South Wales are either under the grip of or threatened by drought. Changing climatic and associated biophysical environmental conditions are impacting on social cohesion, public health and the economic viability of the primary industry sector. And these are measurable at production and conservation landscape scales.

In this context, it can be argued there is a need to ensure that the water resources of those parts of regional Australia that are at risk from changing climatic conditions and extreme weather events are thoroughly understood and documented, This needs to be done in the reality of reduced rainfalls and dryer hotter seasonal conditions, prolonged droughts, lower rates of aquifer recharge and reduced water in storage for irrigated agriculture and domestic water supplies. Also, measures are needed to ensure that the vulnerabilities, impacts and adaptation strategies and actions are fully addressed in State and Territory water plans at local and regional landscape scales.

### ***Towards Priority Policy Actions***

Based on experience with the Murray Darling Basin (as a focused case example) there is an identified need to have a clearer understanding of terms such as 'environment' and 'triple bottom line'. This could lead to the establishment of a set of shared values and an agreed language in which to have the dialogue on the adaptive management of regional landscapes. To this end, a requirement has been identified to deliver training/teaching courses on the philosophical and legislative underpinning of 'environment, as well as common perceptions and an appraisal of common language used to describe and communicate. And that these are delivered at community, school and post-secondary levels.

Additionally, Delegates participating in the *Rural and Remote Regions Research Agenda* and the *Murray-Darling Round Table* agreed that there is a necessity to encourage the use of broader strategies for citizen participation (such as adaptive management strategies and tools and negotiated decision making) that are better nuanced to reflect the complexity of the policy subsystem and severity of biophysical and socio-economic constraints. This will require evolving to the 'emergence stage' of communication. That is, moving beyond the narrower portrayals of consultation and generally ineffective practices (such as the production of fact sheets).

Each of these topics provides an opportunity to evaluate regional landscapes as a reflection of the interplay of biophysical, social, economic, cultural attributes of the environment and the need to integrate them adaptively. And when taken together with 'place' in the perceptions, realities and importance of regional Australia there is a demonstrated nation-wide need for jurisdictions to adopt common NRM and ERM approaches for:

*Implementing regionally appropriate land use planning systems that emphasise 'place' and the inherent landscape and natural and human resources values.*

### 3. Maximising the opportunities of the Murray Darling Basin Plan

Australia has struggled with water management for most of the last century. In this context, the one million square kilometre Murray Darling Basin (MDB), which is 14% of the Australian continent, presents possibly the most difficult multifaceted challenge confronting water resources managers in Australia. Specifically, managers in the water sector need to address issues encompassing natural and human ecological factors such as:

- Vast geographic scale and biophysical complexity in terms of topography, landforms, soil assemblages and degraded river, wetland and dryland landscapes
- Diverse range of climatic conditions and seasonal weather patterns affecting water yields
- Wide variety of natural and human impacted ecosystems
- Settlement patterns and demands for potable water
- Existing and land and water use conflicts and uncertainties over water allocation and future land uses in the Basin
- Stressed socio-economic conditions in marginal primary production areas as a result of prolonged drought conditions
- Complicated mix of irrigated agricultural activities across the production landscape in response to committed levels of water allocation
- Political and governmental implications of water trading

Added to this is a layer of governance complexity due to the four Basin States (Queensland, NSW, Victoria and SA) and the Australian Capital Territory having different:

- policy settings for water allocation and pricing
- statutory regimes for land use planning and natural resources management, especially surface and ground water
- levels of priority and commitment to managing natural resources and the environment

Notwithstanding these complexities, management of the water resources across the MDB is possibly unique, demonstrating what amounts to extraordinary collaboration across jurisdictions for the allocation of a valuable but limited resource.

As promulgated, the 2012 *Basin Plan* is about water allocation for irrigators and other users and environmental flows in the main arteries of the catchments, below dams. Currently, the Basin Plan is not about natural and environmental resources management or integrated water resources management or integrated catchment management. Also, critics argue that there isn't a balance between economic, social and environmental values. Moreover, the current Plan is not holistic and is seen to some detractors as lacking because it neither addresses the dynamics of changing climatic

conditions and nor does it provide a vehicle to optimize the utilization of the ecosystems services inherent to the catchments of the Basin.

The Murray Darling Association (MDA), as the organisation representing the interests of Local Government Authorities within or dependent on the waters of the Basin, provides examples of concerns with the Act and the Basin Plan as they now stand. And the MDA is strident in their call for action on the following issues.

- Simplification of the sector for greater efficiencies and better alignment: *The MDA recommends that a body of work be undertaken to facilitate better alignment between the Commonwealth and the States, and state to state and to provide a level of uniformity or consistency across the water management sector. A key priority of the work should be to minimize duplication and overlap, and to provide greater accountability, and clarity for stakeholders.*
- Water trading: *The MDA recommends that s106 and 86AE of the National Water Act of 2007 are revised to align for consistency and simplicity, and that Act explicitly allows for the proceeds from the trade of water or environmental water holdings held by the Commonwealth Environmental Water Holder to be allowed to be applied to investment in water saving infrastructure.*
- Better balance between social, economic and environmental imperatives: *The MDA recommends that section 21 of the Act be rewritten to provide balanced weighting and flexibility to consider the interrelatedness of social, economic and environmental outcomes for a more sustainable ecology and community.*

Additionally, the MDA advocate that:

- The Commonwealth Environmental Water Holder requires greater flexibility in water trade to facilitate investment in water efficiency infrastructure, and balanced availability of water for food producers
- The current price of temporary water and its trajectory over recent seasons is constraining agriculture and is unsustainable.
- The Commonwealth Water Act 2007 and the Basin Plan 2012 must provide for the balanced weighting of economic, social and environmental impacts in all decisions made under those instruments.

The MDBA has most effectively lobbied the Australian Government to ensure that

- The commitment to legislate to cap buybacks at 1,500 Gigalitres must be delivered, to provide security for impacted irrigators and to drive water efficiencies in other areas
- The 2750GL of environmental water to be recovered under the plan can be efficiently, effectively and safely delivered, and will achieve the intended outcomes.

Collectively, these concerns illustrate the need for 'bottom up' Information, participation and support for the implementation of the Basin Plan. The MDB experience exemplifies many of the realities, challenges and opportunities for water management elsewhere. A plan now exists, based on a robust history of consultation and societal concerns. Moreover, the 2012 *Basin Plan* is backed by Federal legislation, promising to equitably meet the needs of multiple and diverse stakeholders. However, there is a risk is that the plan will falter unless there is an effective mechanism to garner buy-in from communities of interest in the Basin. To be successful, it is envisaged that: the correct

indicators of success are established; progress can be measured; and timely knowledge is derived from effective community and research networks.

As the plan is essentially about 'creating thriving, vibrant regional communities through equitable distribution of limited resources', it has many lessons for water managers elsewhere. Given the magnitude and complexity of ensuring the sustainable management of water resources there is support for the concept that "you'll never manage it all, but you can empower people to make it work".

Delegates participating in the *Rural and Remote Regions Research Agenda* and the *Murray-Darling Round Table* agreed that maximising the opportunities of the *Basin Plan* requires high levels of knowledge, understanding and collaboration between stakeholders within and outside the Basin. To this end, collaborative arrangements should involve governments, industries and communities in the catchments as well as those that are dependent on water from the MDB. Also, collaborative initiatives should be led by teams familiar with biophysical and socio-economic conditions within and relating to the Basin. One model is the multi-partner Regional Centre of Expertise for the Murray-Darling (RCE-MD) with a focus on capacity building and cooperation. Another example is emerging around the rapidly developing concept of *ecosystem service partnerships* to share and maximise the multiple benefits that can accrue from water reform.

With these factors in mind, Delegates participating in the at the *Research Agenda* and the *Round Table* proposed that the risks mentioned above be addressed through institutional collaboration around six core components: Adaptive integrated research; Strategic market analysis; Creative engagement; Scenario setting; Outcome measuring instrumentation; Iterative program and project delivery.

As such, the collaboration would provide sound underpinning information, knowledge and practical experience to meet three core needs. Namely to:

- equip and assist governments, business, industry and communities of space and interest to better understand each's position, role and responsibility with respect to implementing the Basin Plan
- heighten awareness and embed industry and community based tools and techniques to address the threats and risks to the implementation of the plan that are predicted to arise from extreme weather events, changing climatic conditions and anthropogenic threats within and beyond the Basin
- initiate the necessary processes and protocols to independently assess the biophysical and socio-economic effects of plan implementation at local and regional catchment scales

As reflected in panellist's contributions to the **SEGRA 2015** Hypothetical session, for the MDB there is broad stakeholder agreement of the need to ensure that:

- triple bottom or quadruple bottom line assessment and analysis is reality checked in the context of what impacts and changes in the MDB can be attributed to the water allocation process including environmental flows

- the Basin is managed in an Integrated Water Resources Management (IWRM) framework that embeds Integrated Catchment Management (ICM) and Integrated Water Cycle Management (IWCM) principles
- the common elements of jurisdictionally based water sharing plans, and the essential elements of a National Water Plan are identified and assessed
- ecosystems services inherent in natural and human ecologies of the Basin systems are optimised in commercial and intrinsic terms for the people of the Basin

Many detractors argue that supporting documents for the current *Basin Plan* do not adequately address the implications of changing climatic conditions and associated environmental changes on either the water allocation process or the management of environmental flows or the communities and people who are being impacted. This has been seen by many environmental scientists and representatives of primary industry bodies as a major deficiency. When examined, the Plan does not take an IWRM approach that utilises ICM tools to maximise yields from irrigated and dry land production and conservation landscapes alike. Also, the plan is virtually silent on the benefits to be gained by optimising the ecosystem services inherent in optimising allocated waters and environmental flows.

In defence, the Murray Darling Basin Authority has responded by saying that these issues will be addressed in the revised plan.

### ***Towards Priority Policy Actions***

Key lessons from the water management realities and challenges in general and the *Basin Plan* as a case example are:

- Geographically dimension and understand the biophysical, socio-economic and governance realities and challenges at all scales
- Be inclusive, holistic and integrative from the start
- Ensure statutory flexibility
- Build on strengths of approaches and/or benchmark off analogues

An approach and a framework have been proposed for an *Adaptive Integrated Research, Development and Demonstration (RD&D) Program* to support the implementation of the Basin Plan from 'the bottom up'. Such an approach has relevance in regional Australia in insuring that IWRM that is delivered through ICM processes is a reality.

The **SEGRA 2013** challenge argued the case for supporting the implementation of the 2012 Basin Plan from the 'the bottom up'. This challenge has been actively pursued over the past two years and a range of actions suggested for collaborative research to underpin the process such as: actively seeking learnings from other multi-jurisdictional basin scale water plans; implementing integrated water resource managements (eg state water sharing plans); constructing futures using visualisation and scenario setting; and back casting to project changes to production and conservation landscapers

Four areas for collaborative projects were identified at **SEGRA 2015** through the *Rural and Remote Regions Research Agenda* and the *Murray-Darling Round Table*.

- Community water planning. This would be a multi-agency project and could use a community focused participative approach similar to that used by the NWC for Indigenous communities. Product would include pictorial representation of supply and treatment systems.
- Land use futures for the MDB. This would utilise a systems approach and cover issues such as governance, capital and investment, disruptive technologies and use tools such as (for example) the CSIRO land use change model, big data from TERN and the 'Data Cube'.
- Agriculture, industry and environment---Consumption verses conservation. What is the balance and who for? The approach could include overlay values mapping and net chain analysis. On and off farm adaptation strategies would be imbedded in the approach.
- The Basin in 50 years? Constructing futures using visualisation and scenario setting and back casting to project changes to production and conservation landscapes. This would have a policy maker thrust and encompass trade policy.

Deliberations at the *Rural and Remote Regions Research Agenda* and the *Murray-Darling Round Table* at **SEGRA 2015** focused the urgency for:

*Promoting and actioning a collaborative client focused and needs driven research, engagement, and communications agenda that is based on sustainable relationships between customers, investors and providers to support the implementation of the 'Basin Plan' from the 'bottom up'*