"In a climate change world, a water plan such as that for the Murray-Darling Basin, has to be capable of refinement and real-time learning."

From water supply to water governance

By Lee Godden & Ray Ison

WATER IS A PERENNIAL public policy issue in Australia. Remnants of the dream of 'making the desert bloom' remain in our contemporary 'supply-side' policies, which favour technological and engineering 'solutions' and focus more on the country than the city.

Political choices about water have been largely framed as the need to resolve water supply crises, to confront over allocation and ensure sufficient water for food production and regional enterprises. Generally speaking, the water policy problem is ascribed to the physical lack of water supply rather than to institutional, organisational and community practices for managing water. Only recently has the political pendulum begun to swing towards considering environmental flows and the sustainability of our aquatic ecosystems.

Although science and technology has served us well in the past, and it has provided impetus for growth and development based in large measure on developing water supply infrastructure, simply continuing the same policy direction is no longer good enough. Much money and a great deal of effort has been spent to achieve water policy objectives in the face of pressing concerns such as climate change but on-the ground implementation and effectiveness of policy decisions still seem a long way off. The issue is more than just a policy or implementation gap. It is a deeper problem of 'knowing' about water and its social purpose within the Australian national psyche.

MYTHBUSTER: Australia has the right policy mix for managing water

The systemic failure of water governance of the Murray Darling Basin and the rapid turn to technological fixes such as desalination plants in Australia's main cities (Barnett and O'Neill describe this as 'maladaptive practices'), is evidence we still have much to learn about developing policies and practices for sustainable water managing. More of the same is unlikely to serve us well in the longer term.

Water managing, as opposed to the more deterministic water management, provides an alternative platform for considering long term ecologically sustainable water governance.

THE STORY SO FAR

Water law and policy reform

The National Water Initiative builds upon Council of Australian Governments (CoAG) initiatives by developing guidelines and principles for national water management. The National Water Commission is charged with leading reform. In 2009, the Commission found that despite 26 years of water policy reform and substantial amounts of funding, results to date have been less than encouraging. Initial evaluations of the national water reform agenda have been broadly supportive of its coverage, intent and attempt to integrate ecological, economic and social imperatives, yet cautious about the institutional capacity to implement the reforms.

Water policy is a classic example of a wicked problem (see the definition of wicked problems in the 'Governance that works' chapter) or a complex adaptive system. However, because it is rarely framed this way, all too often Australians only become aware of the systemic nature of water in the face of crisis, as is the case with water restrictions.

Water governance

A wide range of rules govern water allocations, entitlements, environmental flows and rights. Add to this the hierarchy of local, state and federal responsibilities and it is no wonder the complexity of water governance can become overwhelming. Effective water governance is essential to achieving national water policy objectives. Accordingly, the following challenges include suggestions for policy implementation to support the national water reform process, based on principles for sustainable water managing:

CHALLENGE #1: Privilege strong ecological sustainability for water

Australia's current water management is unsustainable; although sustainability is a slippery term that can justify a wide spectrum of policy responses. Hussey and Dovers describe the National Water Initiative as an ambitious attempt to operationalise the modern idea of sustainability in the context of water management. However implementation difficulties show significant deficits in capacity and knowledge. The use of ecologically sustainable development will accord higher priority to ecological integrity in water. Even so this formula remains problematic because it invokes 'balance' concepts. Inevitably balance becomes code for prioritising short-term political considerations. This is inadequate for managing the complex dynamic between people and the water environment.

Implementation

To move from ecological sustainable development as the policy goal for managing water to achieving ecological integrity for fresh-water ecosystems across Australia.

CHALLENGE #2: Develop adaptive water managing and social learning

If strong sustainability practices are to drive water reform, then adaptive and systemic approaches need to be embedded across the spectrum of decision making. Adaptive managing has rarely been effectively implemented. Where successful, it has been situated within adaptive planning, designing and governing. Thus, successful implementation of adaptive managing must complement 'social learning' as a governance mechanism. Social learning, when applied to water governing, is:

- Convergence of goals, criteria and knowledge leading to awareness of mutual expectations and the building of relational capital among stakeholders
- Co-creation of knowledge, which provides insight into the means to transform a situation
- Change of behaviours and actions resulting from understanding something through action ('knowing'), which leads to concerted action
- Thus, social learning is critical to transform a situation.

Implementation

To institute adaptive and systemic water managing to create institutional arrangements that enable the co-evolution of water practices across government, industry and the community.

CHALLENGE #3: Shift from a stationary to dynamic and systemic process

The National Water Initiative advocates strategic water planning. Yet, much water planning and assessment remains based on the view that 'natural systems fluctuate within an unchanging envelope of variability.' By contrast, authors in Science have argued that while both scientists and decision-makers have accepted the impacts of human disturbances and climate variations on the water cycle, historically these effects have been 'sufficiently small to allow stationarity-based design.' In other words, that the predictions underpinning design are relatively static and processes can be engineered to these static specifications.

Such assumptions need to be reconsidered. In a climate change world, a water plan such as that for the Murray Darling Basin, if it is to be effective, has to be capable of change and refinement and real-time learning in the face of surprise and breakdown. Water managing must embrace dynamic approaches and be capable of improvisation. Australia does not have the institutional arrangements to act deliberatively in real time to manage water holistically over the long term.

Implementation

To adopt adaptive and systemic constructs for water planning and institute a model of decision making to accommodate high degrees of uncertainty.

CHALLENGE #4: It is not always possible to 'get more from less'

We need to resist a technological fix that promises 'more from less' in the face of highly variable and uncertain climatic conditions. In cities, decentralised initiatives around water-sensitive urban design include innovative uses of storm water and recycled water. Such localised responses compete with major water infrastructure projects such as desalination plants which are adopted as a reaction to 'step change' predictions of decreased water availability. Rather than 'crisis' reactions, there is a need to employ a full range of governance tools to meet the challenge of water supply variability, including demand-side options.

Implementation

To give renewed attention to demand-side water managing to break with path dependency that emphasises technologically-dominated supply-side solutions.

CHALLENGE #5: Integrated decision-making

One result of the adoption of market-based regimes has been a growing role for the non-government sector in water. There has been an increasing spread of organisational responsibilities for regulation of water including, for instance, water price-setting by Commissions set up to combat anti-competitive practices. Given changing power dynamics, it is critical to ensure 'joined up' decision-making which considers the financial implications of water project development. Integrated decision-making must reflect the inter-connectivity of the water cycle, so that groundwater and overland flow are not regarded as the solution to surface water shortages.

Implementation

To institute an integrated approach to decision-making in water that reflects the interlinking social, economic and cultural systems that interact with water.

CHALLENGE #6: Resolve the fiefdoms in water governance

Despite many years of promoting integrated water management, disparate regimes for governing water remain. These are separated across jurisdictions and regions. The difficulty which such institutional 'fiefdoms' create are well known, and in part were the impetus for reforms which created the Murray-Darling Basin Authority.

Matching organisational arrangements with 'natural systems' can help rationalise the structures for water management. The advent of Catchment Management Authorities (CMA) as the basis for natural resource policy implementation is a welcome development. But current trends see decentralised CMAs losing funding to traditional hierarchical governmental structures, with a resulting centralisation of decision-making.

The demarcation of administrative responsibilities across local and state government boundaries and their intersection with water authority and private interests represents another wicked policy problem requiring effective governance. This complexity can constrain social transformation and produce unintended consequences including an inability to translate policies into local action, and the loss of social and relational capital.

Implementation

To resolve longstanding tensions in organisations which have responsibilities for water through systemic institutional innovation.

CHALLENGE #7: Water in the market: what it can and cannot achieve

Ongoing policy transformations have incorporated water trading, water markets, standard-setting and pricing around market measures. Under this model, water governance uses a new regulatory system based on 'purposive self regulation'; designed to change behavioural and institutional patterns associated with water use by 'moving it to highest and best value use'. This reorganisation has not managed to displace many

entrenched institutional and private sector practices which distort market moves to optimise value. Market–based mechanisms have contributed to reshaping water governance in terms of structural adjustments, and meeting the variability of supply in defined contexts.

Nonetheless, it is important to recognise the limitations of market instruments when dealing with 'public goods' resources like water. A strong role for governments remains in setting meaningful parameters in which market measures operate, such as defining realistic cap limits for water trading. More generally, governments and ultimately tax payers will retain responsibility – and pick up the tab for - market failures.

Implementation

To develop a regulatory framework for water managing that acknowledges the contribution of water-related market measures but recognises the limitations of any one regulatory tool.

CHALLENGE #8: Build civic engagement in water governance

In 2009, the High Court of Australia confirmed that water is a common resource to be managed in the public interest. Water policy and law reform has progressively moved to a more equitable concept of water sharing as a component of strategic water planning. In concert, the older focus on top-down institutional arrangements must be complemented by collaborative community-oriented management, which shapes how water is understood and valued by civil society within Australia. Social practices around water pervade everyday life and the relationships between water consumers and the myriad of institutions which manage water. While recent reform has emphasised community involvement there has not been a corresponding commitment to detailed planning of the philosophy, role, responsibilities and the process to support effective community involvement over time.

Generally, community interests are only assigned consultative roles, while the core decision-making remains with traditional water authority structures. There is an urgent need to broaden the constituency of civic engagement.

Implementation

To build citizens' trust in water institutions and explore governance arrangements that balance bottom-up and top-down processes.

CHALLENGE #9: Integration of social learning about water values

Understanding water in its ecological context requires breaking with the view of water as a 'quantity' of a resource, towards an appreciation of it as an integral process within landscapes and lives. Reassertion of the technological fix approach in a climate change world simply re-contextualises an old discourse, without enhancing cultural 'knowing' about water. How people imagine rivers futures contributes to our humanity, as well as serving a physical and utilitarian function. Water reform must be framed around cultural values in order to build social consensus and generate social learning, for concerted action towards water's sustainable use.

Implementation

To encourage social learning as an approach to water policy reform in order to generate new practices as a result of understanding water as a cultural phenomenon.

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