

Towards a New Ethic in Australian Water Law and Policy

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The author acknowledges the contribution to sustainable water management by Indigenous Australians over many thousands of years and reiterates the need for their involvement in how Australia shapes its water policy and law in response to climate change.

Water Crisis and Climate Change

The term 'water crisis' has entered the public lexicon of Australian society. A sense of impending water scarcity has been given critical urgency through growing recognition of climatic change in the amount, location and variability of rainfall due to anthropogenic warming of the atmosphere. The Intergovernmental Panel on Climate Change 4th Report in 2007 identified water management and regulation as a key area of adaptation for sustainable responses to global warming.¹ Climate change, ongoing drought and burgeoning cities have exacerbated the extent to which Australian society is struggling to live within the water limitations of the continent we inhabit. A land colonised, but incompletely assimilated, in regard to our expectations of the lifestyle that the environment can support. Water has played a critical but often unacknowledged role in supporting the development of our Australian way of life. However, the ecological deficit of that approach is increasingly obvious as climate change impacts are felt across the driest inhabited continent on the planet.²

Climate change has highlighted the extent to which use of water runs at highly unsustainable levels in both rural and urban Australia. This insight can be treated as a truism allowing a ‘business as usual’ approach to managing and regulating water in Australia, or else it can be the catalyst for fundamental rethinking about water. There have been successive attempts to reform Australian water policy and law over the past 20 years in recognition of growing water-resource degradation.³ Yet persistent trends of water-resource infrastructure development, set in place in an earlier era, have now reappeared, most notably under the impetus of climate change. When allied with the prevailing faith in the capacity of the market to resolve public policy questions, the result has been to re-entrench historic infrastructure-based supply patterns, largely maintaining a business as usual perspective; albeit tweaked at the margins of water-consumer demand.

Further, the resonances of a public policy stance that characterises water availability in terms of a water crisis and the consequent need for water security⁴ may preclude a more measured response to the pressing matter of how to responsibly and ethically deal with water allocation, use and its long-term sustainable management in a climate change era. Indeed, it is remarkable that water has now assumed the dimensions of other perceived threats to Australian civilisation such as terrorism. The language is synonymous with a heightened focus on security⁵ — on securing resources and livelihoods for particular groups. Governments understandably are unwilling to be seen as powerless in the face of such palpable ‘threats’ as the imminent prospect of reduced water supplies, long term water restrictions or alternatively, of widespread flooding. But the obverse of an emphasis on securing water futures for identified groups, such as cities, is that water must then be ‘secured’ from somewhere else, and potentially someone else. Conflicts over water availability and distribution exacerbated by climate change are likely to reverberate increasingly across Australia.

In view of such potential divisions over water, this chapter explores how concepts of intergenerational and intragenerational equity and common responsibilities might offer a policy and regulatory dimension to assist in resolving crucial tensions related to the balance between demands for water security and the wider public interest in water sustainability in a climate change era. Accordingly,

the chapter examines how the trends to deregulate water governance now operate in concert with moves to institute ‘water security’ projects. These patterns have implications for the broader social, economic and ecological relationships between urban and rural areas, progressively being articulated through water-related policies, as governments and communities seek to adapt to climate change.⁶

Water as a Development Tool

Major periods of water law and policy reform in Australia typically have been initiated in periods of severe water shortage or perversely, when flooding brought an oversupply! Clearly, the prospect of ‘running out of water’ under various climate change scenarios as temperatures rise and precipitation patterns shift tends to focus attention.⁷ Current concern over water security already has seen major policy and legislative responses, often initiated as very immediate crisis responses. Such adaptations to climate change in the water-governance arena though should not be taken in isolation from longer-term water planning and consideration of the situated ecological and cultural character of water. Moreover, it is imperative that water governance in a climate change era be integrated effectively with other policy and management responses; particularly the knowledge gained by many years of investment in integrated catchment management. Therefore it is important to consider how decision-making about water in Australia has played a crucial role in the wider dynamic of Australia’s development.

Historically, water and its supply have been major drivers of Australian settlement.⁸ Current population distributions do not reveal an exact correlation with rainfall patterns, but the concentration of population densities in the relatively well-watered coastal fringe are clearly evident. Goyder’s line in South Australia that sought to establish the inward limit of viable settlement based on rainfall distribution is seen now as an historical anomaly. Nonetheless, climate change has reawakened questions about the viability of many land uses in areas of increasingly marginal precipitation.⁹ Given the interdependencies between water availability and European settlement, water policy and law were key social mechanisms facilitating the occupation of the Australian continent, especially in the south-eastern corner.

Upon colonisation Australia ‘inherited’ English common law water- regulation systems developed in a well-watered climate zone and that therefore reflected non-local environmental contexts. As a consequence, these water laws adopted many inappropriate constructs for regulating the very different hydrological regime of Australia’s rivers. A key feature of the English common law was the riparian doctrine that allowed adjacent landowners to take water from watercourses with certain provisos, such as maintenance of water quantity and quality downstream. Yet many of Australia’s rivers have only intermittent flow, and upstream withdrawal of water often will affect downstream water quantity and quality. The lack of synergy between Australia’s biophysical characteristics and common water law regulation was highlighted in major periods of droughts, which precipitated a shift from this system. In Victoria, for example, the drought of the late 19th century, led to the change to a statutory scheme initiated by Alfred Deakin and fellow Royal Commissioners. The legislation for water allocation and management that arose was suited to the demands of a colony about to enter a significant ‘development phase’. Provision of water supplies particularly for inland irrigation, and the infrastructure that accompanied it,¹⁰ was a significant factor in that development — a late 19th century economic stimulus package. At that time, along with the drought, Victoria was experiencing a financial recession! As the work of environmental historians such as Powell,¹¹ so effectively demonstrates, Victoria in its urban and rural water law, policy and management used ‘water’ as a pre-eminent development mechanism, whether in promoting rural irrigation soldier settlement, or in shaping the urban form and character of Melbourne itself.¹² A similar situation prevailed in many other colonies, which became States after Federation in 1901.

As Australian water law regimes developed in the early 20th century, the focus was upon water supply and physical infrastructure expansion in rural and urban areas. To enable development of public infrastructure for water, especially irrigation, water resources in most jurisdictions were vested in the Crown (government instrumentalities) through specific legislation. In Victoria, for example, following the 1884 Royal Commission on Water Supply, there was a vesting of the ‘overarching rights’ to water in the Crown and then a system of

private grants of water access to individuals from government authorities. Most legislation explicitly tied grants of water to land in rural areas, with the nexus linking water rights to land remaining unbroken for over a hundred years. Today, pursuant to various pieces of legislation, governments continue to hold vested water resources, and the significance of this legal process for the formulation of a public trust in water is discussed below.

Over the 20th century, legislation governing water supply and distribution proliferated. In concert, a complex institutional structure of multi-level water instrumentalities developed, largely to satisfy growing consumptive demand for water.¹³ There was considerable variation in water-regulation practices across the Australian states.¹⁴ Continual pressure for more supply often resulted in an over-allocation of water beyond ecological capacity in many catchments. Wider systemic failures ensued as the governing legislation did not address the environmental implications of water-resource development in any coherent manner.¹⁵ Water remained primarily a development tool. Indeed provision of water supply has been such a significant development catalyst that arguably Australian society has become locked into this institutional and public policy mode of thinking about water, and it has proven very difficult to displace.

Gradually though, a more integrated approach to water policy began to emerge in the late 20th century, taking into account water users, land-water connections, and growing acceptance of catchment management. The need to move beyond a traditional focus on water technology and infrastructure provision reflected a changing paradigm that promoted more efficient management of existing water supplies rather than an emphasis on continually developing new sources.¹⁶ Council of Australian Government (CoAG) water law and policy reforms commencing in 1994 and culminating to date in the National Water Initiative, as well as the Commonwealth Water Act 2007, have sought to implement structural change and specific social and economic goals through general water law and policy. An important component of these goals has been to promote the objectives of environmental protection. In this regard, the heightened climate change awareness has provided an additional impetus to the identified need for environmental water reserves and it has highlighted the

need for water planning to take into account the long term sustainable use of water resources.

Another key change that the CoAG reforms initiated was the introduction of market mechanisms, such as water-trading and water-pricing reforms, to achieve public policy goals in water management.¹⁷ While adopting laudable public policy objectives, the productivity inspired reforms embraced a form of market environmentalism that has proven reasonably effective in allocating scarce water resources efficiently, but which is very uneven in its distributive social consequences. Indeed, the joining together of economic efficiency outcomes with environmental goals under market environmentalism classically occurs at highly aggregated levels; typically expressed as consumer preferences, or 'highest and best value use', which often ignores the local and spatially skewed impacts of decisions to redistribute water supply.¹⁸ The impacts of decisions to redistribute water, whether clothed as market outcomes or operating as the result of more direct planning or regulatory controls, will become increasingly divisive with ongoing climate change.

Growing awareness of climate change impacts in urban areas also saw a particular skewed distribution develop in relation to the responses to the water crisis. In a 'domino effect', all major metropolitan areas started to experience inflow shortages to water storages in the first decade of the 21st century. The overwhelming response by governments and water authorities was to reinvoke the former predominately supply-driven response to water policy and law with the instigation of major water infrastructure projects, ranging from desalination plants to new dams.

Water and Cities

Urban water authorities have been relatively conservative in their reaction to changing water-availability options under conditions of drought, climate change and projected population growth in principal cities.¹⁹ The focus has reverted to large-scale technological solutions, and the identification of new sources of water supply with relatively constrained water-demand management beyond the instigation of water restrictions, some lifting of urban water prices and behavioural change campaigns primarily directed at household water use. Some attention is being given to water-sensitive urban design

and the incorporation of externalities into water-pricing and cost-benefit analyses, but there remain gaps in achieving sustainable water management.²⁰ Sustainability agendas require more innovative adaptations to climate change and water governance, but perceived scarcity in urban water has clearly shifted the impetus again to supply side ‘solutions’. Part of the inertia in the response may lie in the historic configuration of the relationship between the major cities and the surrounding rural areas that was instigated in earlier eras where water was regarded as a development tool.

Cities as Residual Colonial Infrastructure

Much water management operates on a divide between rural and urban areas. Yet the divide is an artificial one as there has always been strong rural and regional interaction with cities. Provision of water infrastructure in city and country was an important factor in such economic relationships. It shaped critical aspects of the interaction of capital cities with rural areas by continuing a trend whereby ‘resources’ including water were drawn from the rural hinterland and externalities, such as wastes were ‘deposited’ beyond the city fringe.²¹ This oversimplifies the situation as there was resistance to such ‘transfers’ and many exemptions from these trajectories. Yet, this underlying pattern of rural–urban interaction has not been displaced and still informs much urban water-supply policy. Urban water supply has been augmented by the drawing in of water resources to cities with desalination plants, new dams and pipelines to transfer water being central strategies.²² These patterns represent the core response to date in urban water policy in the climate change era. This response has particular ramifications for intragenerational equity, as it privileges the rights to water of certain groups in Australian society over others.

However, the recent responses are not a simple reversion to the past. An emphasis on water-security infrastructure ‘solutions’ operates in tandem with a privatisation paradigm. This deregulatory perspective, given the urgency imputed by climate change, also has come to centre on water supply and infrastructure with, yet again, particular distributive consequences — this time between public and private sectors. One trend that is prominent in the water-security context is an amalgamation of the development/infrastructure mode of water regulation with ‘public/private’ partnership (PPP) models. Governments, in many

states when adopting a classic water-infrastructure supply development strategy have increasingly turned to the PPP formula. This approach involves a particular apportioning of risks and returns between private and public entities due to the specific processes of ‘risk spreading’ that operates within the financial and security sectors. In this regard there are very uneven responsibilities for the public and private ‘actors’ in the water-supply sector, particularly where PPPs are involved. These skewed distributive effects can be seen in the public costs of environmental impacts and in public financial obligations — an important consideration given the large capital costs (and indeed foregone opportunity costs) associated with water-infrastructure development. Any potential distributive inequalities are exacerbated, as financial arrangements, despite some recent attention directed to triple- bottom-line sustainability objectives in the private sector, remain traditionally structured around ‘purely’ economic profit objectives. While the advantages for the private sector may be clear, whether PPPs and infrastructure developments can be so unambiguously aligned with the public interest in water governance in a climate change era requires more vigorous debate.

Further, whether it is appropriate for governments faced with severe water-supply situations in urban areas, and in the light of long-term drought exacerbated by climate change, to seek to mitigate the risks of water supply by various ‘privatisation’ strategies is central to debates about the long-term sustainability of recent water policy and regulation. Current trends also have significant implications for rural areas, as many of the ‘water resources’ that governments use as the basis for urban water supply projects will be physically located in rural regions. Most importantly, many of the repercussions of these projects will be experienced by the environment, the taxpayers and the communities of the wider region. An ‘intergenerational’ debt burden will arise for future generations in terms of environmental degradation and financial responsibilities.

In light of such contentious issues, some commentators have called for a move from a water-security stance to a water-sensitivity approach in our cities and towns.²³ Such an approach could reflect a precautionary perspective to decisions about water that allowed a capacity for social learning and adaptive management²⁴ rather than a reliance on ‘one off’ technological solutions that bring their own

social, economic and cultural concerns while often precluding other adaptations. If Australian society is to respond effectively to the ethical and distributive justice implications of climate change, and its impact on water governance, we may need to revise many existing management approaches. As an example, a city must be seen as existing in a wider region where water use has many dimensions, and cities must be integrally involved with sustaining the ecological and social basis of the entire region, including rural communities.

Adaptation, Planning and Social Learning in Water Governance

The example of urban water supply highlights how principles of intragenerational equity and intergenerational equity need to inform a more expansive conception of the public interest in water governance. Accordingly, we need to adapt our legal and institutional systems, and our social capacity to manage water in a climate change era. An important component will be recognising the manner in which our institutions and community practices are driven by integral but often unacknowledged assumptions. An emphasis on the growth paradigm that suggests that we are ‘running out of water’ and facing water-security problems, may not allow sufficient reflective practice in water governance to ensure an adaptive approach to climate change risk.²⁵

Further, an important component of recent water law and policy reforms, initiated under the National Water Initiative, is an emphasis on water planning;²⁶ on assessing the condition of our water resources, establishing priorities, such as environmental water reserves, and in seeking to manage risks to water sustainability. If we are to bring to bear the considerable expertise, both scientific and governmental, to manage water for long-term sustainability then it is crucially important to place an emphasis on water planning as we rethink how our cities might be water sensitive, and in reappraising the situation in rural areas to ensure we provide a secure ecological basis for our rivers and communities.²⁷

Therefore, it is encouraging to see the institution of sustainable water planning in many areas, including as a central component of the Water Act 2007, and in emerging ideas about the redesign of our cities. But public water-planning processes need to have integrity and

independence — we know well the complexities of ‘intervention’ into land-use planning decisions.

More discretely, some aspects for water planning in a climate change era that might be considered include:

1. The need to more effectively integrate decision-making about water with other forms of land use, and strategic and economic planning. In particular, there needs to be processes put in place for wider consultation and consideration before there is government financial ‘lock in’ on tenders and contracts for major water-supply projects.
2. As part of the existing assessment processes for planning and development control, cumulative water-use implications of activities should be a major, mandatory consideration in all Environmental Impact Assessment procedures and the resultant decision-making.
3. Water planning needs to take into account energy/greenhouse-gas emission considerations in water supply/infrastructure developments.
4. The establishment of more discrete sustainability criteria to guide the broad discretions that typically operate in water laws in order to reflect robust water-planning outcomes.
5. Urban planning laws and building codes need to reflect more acutely adaptive water-management practices, especially those elements that would facilitate recycled water use and distributed water systems — not just in outer-suburban greenfield development, but inner city redevelopments.

Australia is investing large amounts of public funds in water planning processes — there is a critical need to ensure these outcomes are not eroded by short-term contingencies. What is clear though is that climate change means that Australian society will not be able to endlessly pull out water resources to be the ecological ‘stimulus package’ that we have used water for in the past. Environmental law can offer some guiding principles for an emerging approach.

What Needs to Change in Australian Perceptions of Water?

As core to the response to climate change, there is a need to redefine the long-term responsibilities of governments, individual water users

and the community as a whole in regard to water.²⁸ Australian society must learn to live within the water limits of a continent affected by climate change. Rather than framing these limits around the language of ‘rights’, which tends to be the common assertion, we need to invoke a concept of ‘responsibility for’ not just rights to — water. Further, such a long-term view needs to be accompanied by a common trust for water; instead of creating an artificial division into public and private and rural and urban spheres at the outset, where stakeholders assert their rights to water vis-a-vis each other.

In reassessing approaches to water at an institutional and public policy level, then the concept of the vesting of the control and management of water resources in the Crown as creating a first instance public trust for maintaining the ecological integrity and capacity of water systems is a useful one. As an overriding aim, it can guide adaptive water management and drive institutional change and individual responsibilities for water. A public trust in water suggests that executive governments with short-term policy cycles as drivers need to be aware of intergenerational equity and intergenerational equity concerns, duties of care as part of trust responsibilities, and much longer-term horizons than the average electoral cycle. The period of managing water for successive governments needs to take into account wider conceptions of the ‘public interest’, even under the pressures of water crises and looming water scarcity. How then might this wider definition of public interest be framed?

Public Interest Water Governance

The concept of public interest in natural resources is closely linked to ecologically sustainable development principles. Ecologically sustainable development has emerged as the guiding objective for much environmental and natural resources laws, including water law. The parameters of ecologically sustainable development have been comprehensively articulated in many environmental laws²⁹ and in key case law.³⁰ To draw from the international legal instrument — Our Common Future — sustainable development includes the importance of equity in the pursuit of environmental protection: ‘Even the narrow notion of physical sustainability implies a concern for social equity between generations ... and extends to equity within each generation.’³¹ The analysis outlined here makes the point

that Australian society increasingly will need to exercise inter- and intragenerational equity in water managing to meet the challenges of climate change.

‘Common but differentiated responsibilities’ is another concept, often associated with international climate change legal frameworks,³² which has relevance for Australian water law and policy in a climate change era. The common but differentiated responsibilities principle could recognise that there are commonly held responsibilities for water, akin to the idea of a public trust. Such water-related responsibilities include: the need for equitable distributions within the present generation; duties to future generations; and a common responsibility to prevent environmental harm and the complete collapse of water systems. However, the construct also recognises that those groups that have most benefited from a virtually unrestricted use of resources in the past to reach a particular form of ‘development’³³ have more specific and more weighty responsibilities to redress current water problems. Further, the concept also recognises that not all groups will have the capacity to provide as substantial a contribution to the joint responsibility as other groups. Often the reduced capacity of these groups will be due in part to the legacy of skewed distributive justice outcomes in patterns of water policy and governance. Overall though, the common but differentiated responsibilities approach appears to offer an appropriate ethic to guide Australian society through the challenges of implementing institutional and community change with respect to water law and policy in an era where, ‘climate change [is] on for young and old’.

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Endnotes

- 1 IPCC. (2007). ‘Impacts, Adaptations and Vulnerability’ Working Group II Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change CUP (pp. 8–17).
- 2 Lowe, I., (2005). *Living in the hothouse: How global warming affects Australia*. Melbourne, Australia: Scribe Publications.
- 3 McKay, J. (2008). The legal frameworks of Australian water: Progression from common law to sustainable shares. In L. Crase (Ed.), *Water policy*

- in Australia: The impact of change and uncertainty, resources for the future* (pp. 44–60). Washington: Rff Press.
- 4 Edwards, G. (2008). Urban water management. In L. Crase (Ed.), *Water policy in Australia: The impact of change and uncertainty, resources for the future* (pp. 144–165). Washington: Rff Press.
 - 5 Edwards contends, ‘Threats to the safety of water supplies are taken very seriously by water users and by governments ...’, *ibid* at 144.
 - 6 For a discussion of adaptation see CSIRO (2007), *Climate change in Australia Technical Report 2007*. Canberra, Australia: Commonwealth Dept. of Environment and Heritage.
 - 7 Murphy, B., & Timbal, B. (2007). A review of recent climate variability and climate change in south-eastern Australia. *International Journal of Climatology, Royal Meteorological Society*, published online at Wiley InterScience, DOI: 10.1002./joc.1627.
 - 8 Sewell, W. (1985). Comprehensive water planning: An agenda for change. In W. Sewell, J. Handmer & D.I. Smith (Eds.), *Water planning in Australia: From myths to reality*. Canberra, Australia: Centre for Resource and Environmental Studies, The Australian National University.
 - 9 Craik, W., & Cleaver, J. (2008). *Modern agriculture under stress: Lessons from the Murray-Darling, The Murray-Darling Basin Commission*. Retrieved February 27, 2009, from <http://rosenberg.ucanr.org/documents/II%20Craik.pdf>
 - 10 Crase, L. (Ed.). (2008). An introduction to Australian water policy. In *Water policy in Australia: The impact of change and uncertainty, resources for the future* (pp. 1–16). Washington: Rff Press.
 - 11 Powell, J. (1989) *Watering the Garden State Water, Land and Community in Victoria, 1834–1988* Allen & Unwin, Sydney.
 - 12 Davidson, G. (2008). Down the gurgler: Historical influences on Australian domestic water consumption. In P. Troy (Ed.), *Troubled waters: Confronting the water crisis in Australia’s cities* (pp. 37–66). Canberra, Australia: ANU E Press.
 - 13 Fisher, D. (2000). *Water law*. Sydney, Australia: Lawbook Company.
 - 14 Gardner, A. (2003). The Legal Basis for the Emerging Value of Water Licences — Property Rights or ‘Tenuous Permissions’. *10 Australian Property Law Journal*, 1, 4.
 - 15 Industry Commission. (1992). *Water resources and waste water disposal* (Report No. 26). Canberra, Australia: AGPS Canberra.
 - 16 COAG, (2004). *National Water Initiative Discussion* (Paper 19). March 2004.
 - 17 Fisher, D. (2006). Markets, Water Rights and Sustainable Development, *23 Environmental and Planning Law Journal*, 10.

- 18 Connell, D. (2007). Contrasting approaches to water management in the Murray-Darling Basin. *Australasian Journal of Environmental Management*, 6.
- 19 Syme, G. (2008). Sustainability in urban water futures. In P. Troy, (Ed.), *Troubled waters: Confronting the water crisis in Australia's cities* (pp. 99–114). Canberra, Australia: ANU E Press.
- 20 Cullen, P. (2007, February). *The Urban Water Agenda in 2007*, Water Services Association of Australia, Strategic Planning Workshop, Sydney, Australia. Retrieved November 3, 2008, from http://www.wentworthgroup.org/docs/Urban_Water_Agenda.pdf accessed 3 November 2008.
- 21 Davidson, op cit, 2008, 39.
- 22 Spearritt, P. (2008). The water crisis in Southeast Queensland: How desalination turned the region into carbon emission heaven. In P. Troy (Ed.), *Troubled waters: Confronting the water crisis in Australia's cities* (pp. 19–36). Canberra, Australia: ANU E Press.
- 23 Brown, R., & Clarke, J. (2007). *Transition to water sensitive urban design: The story of Melbourne, Australia*. Melbourne, Australia: Facility for Advancing Water Biofiltration, Monash University.
- 24 Dovers, S., & Connor, (2006) Institutions and Policy Change for Sustainability. In B. Richardson & S. Wood, (Eds.), *Environmental law for sustainability: A reader* (p. 21). Portland, Oregon: Oxford.
- 25 See CSIRO (2007) Climate Change Scenarios for Initial Assessment of Risk in Accordance with Risk Management Guidance Commonwealth Dept. of Environment and Heritage, Canberra.
- 26 Cullen, P., op. cit, 4.
- 27 Fisher, D. (2006). Water Resources Governance and the Law. 11 *Australasian J. Nat. Res. L. & Policy* 1.
- 28 Fisher, D. *Water governance*.
- 29 Sands, P. (2002) Principles of International Law and the Environment 146.
- 30 See, for example, *Anvil Hill Project Watch Association Inc v Minister for Environment and Water Resources* (2006) 97 ALD 398.
- 31 World Commission on Environment and Development, (1990), Our Common Future, 331.
- 32 See United Nations Framework Convention on Climate Change (1992) 31 ILM 85.
- 33 Horn, L. (2007). 'Intergenerational Equity': A Key Concept in the United Nations Framework Convention on Climate Change.'



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