

Appendix I - The underlying value of wholesome and clean water supports the need for an effective system of water governance

Water is the core of all civilisations. It is the most universally useful substance on this planet earth and as such should be considered a public good. As a public good in civilised societies, water in a wholesome and clean state – for drinking and hygiene and irrigated agriculture - is essential for the healthy existence and survival of humans,¹ and the integrity of the environment that supports human settlements. A public good may be defined to include a good or a service that is deemed to be essential for basic existence needs of individuals and societies, and access to which therefore demands public involvement in ensuring high quality standards, quality and reliability of service, appropriate pricing and the management of supply and demand on sustainable basis. (e.g. electricity, water and sanitation, basic health). As a resource or economic commodity, it is extensively beneficial to productive human endeavours that are conducive to the comfort and conveniences of civilised societies.

The adequate supply of water, to meet all needs and purposes of civilisations, is of extreme importance. Water is the earth's great solvent. It "has the power to dissolve whatever is soluble", with resulting potential for causing widespread pollution and contamination of the environment.² It is a potentially dangerous substance; it must therefore be collected, distributed and discharged and managed in an integrated manner with the utmost of care.

Effective water governance is rapidly becoming one of the major challenges for human societies in the 21st Century.³ Whether it relates to the sharing of water resources for irrigation in food production, for power generation, or for meeting essential water and sanitation needs, complex water issues are assuming critical proportions, from the internally displaced person camps of Darfur, Sudan, to the *favela* settlements of Porto Alegre, Brazil, to the pleasant suburbs of Canberra, Australia.⁴ Since governance issues are extremely important to the democratic ideal, it

¹ Kuehnelt-Leddihn, E., von (1952: 89). *Liberty or Equality: The Challenge of our Time*, edited by John Hughes, Hollis and Carter, London. "Freedom is the average man's indispensable precondition for the development of his personality, and thus also of his deeper, implicit happiness, which does not necessarily rise to the surface of his consciousness".

² Richards, E. (1911). *Conservation by Sanitation: Air and Water Supply; Disposal of Waste*, Wiley & Sons, New York.

³ Brundtland, G. (2006). 'Public Health Challenges in a Globalised World', *European Journal of Public Health*, vol. 15, no. 1, pp. 3-5. "Public health challenges are no longer just local, national or regional. They are global. They are no longer just within the domain of public health specialists. They are among the key challenges to our societies. They are political and cross-sectoral. They are intimately linked to environment and development. They are key to national, regional and global security".

⁴ For a definition of water governance, see United Nations (2006). *Water Governance for Development and Sustainability*, Natural Resources and Infrastructure Division, Economic Commission for Latin America and the Caribbean, United Nations, Santiago, Chile. It includes: "the capability of a social system to mobilise energies, in a coherent manner, for the sustainable development of water resources... Governance implies the capacity to both generate and implement appropriate policies. These capacities are the result of having

is becoming globally increasingly imperative that proper regulatory frameworks are put in place.^{5,6}

Strong and independent regulation is essential for generating policies for sustaining prosperity and the Australian way of life

In the modern, industrial, highly competitive economy of Australia, a wholesome and clean water supply has traditionally provided a natural competitive advantage over economic competitors in the region. From the macroeconomic perspective then, good water governance may be just as essential to the prosperity of the whole of society as wholesome and clean water is for the essential needs of individuals and families at the local level.⁷ The factors and processes for ensuring good water governance should not be made a sport and plaything of schemers or adventurers.

Water facilitates and leverages Australia's access and integration into today's global economy. The ultimate question of how societies should beneficially allocate and use their wholesome water supplies after public good needs are met is most complex. This issue is today the strategy and policy planning challenge of Australia. It should be advanced through a properly structured governance approach that is responsible, responsive to the preferences of citizens, and can be confirmed as conducive to sustainable socio-economic development.

The finite nature of the available wholesome and clean water in Australia, and the consequent political competition for access to those supplies for economic growth and development, now show some signs of generating tensions in the social fabric of our Australian community, which

established consensus, having devised coherent management systems (regimes based on institutions, laws, cultural factors, knowledge and practices), as well as adequate administration of the system (based on social participation and acceptance, and capacity building).

⁵ Sanderson, J. (2006). *Federal Renewal and Unity in Reconciliation: A Return to Government by the People*, Order of Australia Association, Annual Oration, Lieutenant-General John Sanderson, AC. "Both the chaos and the certainty are getting closer to home, and we would all neglect any erosion of our own system of governance at our peril".

⁶ For more clarity on the concept of water governance, see United Nations (2006). The notion includes "the ability to design public policies (and mobilise social resources in support of them) which are socially accepted, which have as their goal the sustainable development and use of water resources, and to make their implementation effective by the different actors/stakeholders involved in the process (Rogers, 2002). In order to be effective, governance must be transparent, open, accountable, participatory, communicative, incentive-based, sustainable, equitable, coherent, efficient, integrative and ethical".

⁷ McNiell, W. (1976). *Plagues and People*, Anchor Press, USA. "Patterns of human reproduction had to adjust to systematic loss of population that resulted from exposure to diseases that flourished under civilised conditions. Until very recently, cities were unable to maintain their numbers without a substantial inflow of migrants from surrounding countrysides. Urban health hazards were simply too great...".

has been built through highly spirited cooperation.⁸ When government loses sight of the common interest and the policy input derived from the good sense of the citizen, populations tend to forget that “one’s life is worth as much as one’s neighbours, and that the strong and educated are bound to look after the weak and ignorant”.^{9,10} These were principles that came into the thoughts of the average Australian citizen with the rise of inclusive democracy. Our Australian ancestors called this concern for each other mateship, and it today finds vibrant expression in the psyche of all Australians.

It was this form of democratic ideal that re-secured the public protection of health as a government duty in Britain in the 19th Century, after a conspicuous absence from civilisation of around 1300 years.^{11,12,13} In fact the whole idea of public interest and the greater public good

⁸ Australian Public Sector News, *Government in a Time of Crisis*, online at www.psnews.com.au, accessed on 23 July 2007, Canberra. “The vulnerability made so plain in wartime led to a series of economic programs, which dovetailed with a commitment to social justice. Both the social and physical infrastructure of the nation was rebuilt, resulting in new housing, better education and health services, and iconic schemes like the Snowy River Project... Australia emerged stronger than ever... Our isolation and vulnerability were overcome by a willingness to act for the common good in times of trouble. Led by men who commanded respect, Australians were asked to think big and work together, and we did”.

⁹ Richards, E. (1911).

¹⁰ With reference to the period following the Great War, see Hill, E. (1946). *Water into Gold*, Robertson and Mullens, Melbourne. “A spirit of comradeship prevails, as it always will among these men, in public life and private. Should one of them be ill or unfortunate, it is no rare occurrence to see eight teams and eighty men toiling in his vineyard on Saturday, ‘a working bee to help the lad along. Soldiers widows and soldiers children are the care of the community, and they never know want”.

¹¹ Foil, J., Cerwick, J. & White, J. (1993). ‘Collection Systems Past and Present: A Historical Perspective of Design, Operations and Maintenance’, *Operations Forum Magazine*, vol. 10. no. 12. Archaeological ruins show that certain ancient cities had advanced sanitary systems, with “drainage and sewer systems running to individual homes”. In contrast, while the Romans had “built aqueducts and sewer systems on a grand scale”, there were few house connections in their cities. Essentially “sanitary engineering had declined from 2500 B.C., through the Dark Ages, until the mid-1800s”.

¹² Kober, G. (1897). ‘The Progress and Achievements of Hygiene’, *Science*, new series, vol. 6, no. 52, pp. 789-799. It was stated that during the reign of the Caesars: “sanitary officials and physicians to the poor were appointed... we read of the establishment of hospitals as early as the 4th Century; these were speedily followed by infant and orphan asylums and homes for the poor and incurables. During the Middle Ages sanitation received a decided check, ignorance and brutal prejudices appear to have been the ruling spirit, and for many reasons it was the most insanitary era in history... human filth was thrown on the streets... Sewers and aqueducts having been permitted to fall into disuse, the inhabitants were compelled to resort to wells with polluted subsoil water”.

¹³ Karlen, A. (1996). *Man and Microbes: Disease and Plagues in History and Modern Times*, Simon & Schuster, USA. In a historical reflection on the co-evolution of humans and microorganisms, Dr. Karlen focused on socio-ecological change - brought on by “change in the environment, military conquest, the acceleration of travel, change in the environment, microbial adaptation and the breakdown of public health measures” – that had and would continue to contribute to “the changing incidence of disease”. He suggested that even the use of aqueducts and sewers declined in the Dark Ages, because populations had decreased in size and returned to more sparse rural communities as a direct result of plague and pandemics.

came about when communities in many of today's developed countries caused these issues to become worthy of public consideration. At this time it was recognised that good public health, supported by adequate access to water and sanitation and ample food supplies, were vital for the 'real' challenge of civilisations; i.e. sustainable development. Access to water and sanitation, which is defined as a component of human rights today, was already recognised 150 years ago in the United Kingdom. The treatment of water as an economic resource (and therefore subject to economic efficiency) was set aside in preference for providing access to water and basic sanitation as a public good and for the interest of society as a whole.

Achieving the democratic ideal in water governance in Australian society

Traditional water governance in Australia has been proven as most dysfunctional. Unsustainable water use has resulted in pollution, over-allocation, widespread environmental degradation and ill health.¹⁴ It is more clear today that current institutional arrangements and policies have failed to generate appropriate and adequate regulation, with the result that these public goods that should have been managed in the greater public interest are being distributed more on political consideration. This approach may be deemed as the allocation of political resources.¹⁵

The risk of this 'business as usual' approach is evident in the many hegemonic regimes that have become failed States. Under such condition private interests pushed for extreme inequality in the distribution of political resources, to the point where resentments and frustrations were created among the average citizen. In contrast, Dahl states that crises should be met with actions that "retain, restore and perhaps even enhance the confidence of citizens in the effectiveness of their governments".¹⁶

The current state of affairs in Australia with regard to water governance is not so much any given person's fault, it is rather - more of the general crisis of how modern governments govern, plan, and allocate resources. This tends to be in line with short term political cycles, the centralisation

¹⁴ For a discussion on Australian health inequities resulting from the lack of provision of public goods - which possibly cannot be limited to the indigenous population - see Marmot, M. (2005). 'Social Determinants of Health Inequities', *The Lancet*, Vol. 365. The inequality is a "life expectancy spread of 48 age years between countries", but the inequity is the "life expectancy spread of 20 age years within countries... A particularly telling example of health inequalities within countries is the 20-year gap in life expectancy between Australian Aboriginal and Torres Strait Islander peoples - life expectancy is 56.3 years for men and 62.8 years for women - and the Australian average. The men in this population would look unhealthy in India (male life expectancy 60.1 years) whereas Australian life expectancy is among the highest in the world, marginally behind Iceland, Sweden, and Japan".

¹⁵ Dahl, R. (1971). *Polyarchy: Participation and Opposition*, Yale University Press, USA. "In allocating income, wealth, status, knowledge, occupations, organizational positions, popularity, and a variety of other values, every society also allocates resources with which an actor can influence the behavior of other actors in at least some circumstances. These resources then become political resources. Who receives what and how much political resources is not, however, simply an inert output of socioeconomic institutions".

¹⁶ Ibid.

of power and resources,¹⁷ and perhaps, over-reliance on the market to always provide efficient outcomes. For example, the levees were not maintained in New Orleans and this ensured that the damage caused by Hurricane Katrina was much worse than necessary. The environment in the Murray Darling river basin system was not properly treated and this led to damage caused by excessive land clearance and intensive farming resulting in salinity and water pollution levels much worse than would otherwise have been obtained.

It must now be recognised that three great driving forces - globalisation, urbanisation and environment change - have damaged and are continuing to harm the established system of good governance that initially delivered the public good and the common interest in Australia. The important need to put in place remedial policies and measures to ensure political stability and sustain inclusive democracy should be evident.¹⁸ There is a need to shift to a strategic approach that is based on sound water management, public health and climate security, and ensures a fair and just way that protects the progress of Australian civilisation.

The need for an overall national policy framework as an efficient and effective approach to a more holistic water governance and sustainable development

Since federation the role of the Australian public service has been to protect Australian democracy. Responsible and accountable governance are key characteristics of inclusive democracy, including responsiveness to the preferences of citizens, considered as political equals. In terms of representative, deliberative and participative governance, “all full citizens should have the unimpaired opportunity to:

- formulate preferences,
- signify preferences to fellow citizens and government by individual and collective action, and
- to have preferences weighed equally in the conduct of the government, weighed with no discrimination because of the content or source of the preference”.¹⁹

¹⁷ Hunt, T. (2004). ‘Society: Past Masters: The Victorian City is a Byword for Poverty, Pollution and Disease but 19th Century Municipal Visionaries like Joseph Chamberlain have Much to Teach us about Revitalising our Urban Centres, Argues Tristram Hunt’, *The Guardian*, 2 June. “Progressive centralisation during the 20th Century has frequently encouraged the best and brightest to bypass local government...What the transformation of the Victorian city shows is the need for local fiscal freedom”.

¹⁸ Dahl, R. (1971: 105). “Any dispute in which a large section of the population of a country feels that its way of life of its highest values are severely menaced by another segment of the population creates a crisis in a competitive system. Whatever the eventual outcome may be, the historical record argues that the system is very likely to dissolve into civil war or to be displaced by another hegemony or both... any difference within a society that is likely to polarise people into severely antagonistic camps is a cleavage of exceptional importance”.

¹⁹ Ibid.

It might be observed that Australia's federation process failed to tackle prevailing political beliefs (e.g. legitimacy of inclusive democracy and national defence needs) and the issue of marked inequalities in the distribution of water as an economic resource. In assigning residual powers over water to the State and Territory levels, competitive politics today may be seen as suffering from a democratic and human security deficit. As noted previously, such inequality in the distribution of political resources has been associated in *extreme* cases with inequalities in the exercise of political power in hegemonic regimes; where a small minority of local and foreign owners and managers with superior resources is able to develop and maintain a divided political system.

This is potentially dangerous in this day and age. Nations must constantly adjust to the pressures of globalisation, urbanisation and environmental change – which are all being actively enhanced by global economic competition. Managing an advanced society by monopoly presents limitations, costs and inefficiencies, while in contrast incentives and complex behaviours are needed to transform the stubbornly resistant institutions of the old order to support inclusive democracy.

Simply handing \$10-billion of public money to private and corporate irrigation interests²⁰ - many schemes of which have been fully depreciated over the past 100 years, yet which have also left the environment in total disrepair - may not be the most responsible and efficient allocation of resources. This approach to subsidizing farmers might also run counter to the intent of the *Doha Round* of multilateral trade negotiations in the World Trade Organization. Australia does not want to be seen in this light.

Bradford states that “a state of crisis can help galvanize action. But urgency can crowd out systemic approaches needed for sustainability”.²¹ There is a need to now put in place adequate capabilities to generate and implement appropriate and sound water and basic sanitation systems, so governments do not waste scarce public resources in pursuit of ‘business as usual’ programs. There may be a better way that can benefit the whole of Australian society, including future generations, which reduces food prices, and improves the health of the population and the environment in agricultural communities in the long-run. Such new approaches to the issue might generate critical new capital investments and greater government spending on public good infrastructure and services, on sustainable annual investment basis that may all prove more

²⁰ *PM Unveils \$10b Plan for Water*, online at www.theage.com.au/news/national/pm-unveils-10b-plan-for-water/2007/01/25/1169594409364.html, accessed on 25 January 2007. “The 10-point plan includes the biggest modernisation of irrigation infrastructure in Australia's history, pumping almost \$6 billion into improving structures like pipes and channels in a project aimed at saving 3,000 gigalitres of water a year. Other investments include \$1.5 billion to boost water efficiency on farms, and \$3 billion to address over-allocation of water in the drought-ravaged Murray-Darling Basin”.

²¹ Bradford, C. (2005). *Global Health and Global Governance: Prioritising Health with the Framework of the Millennium Development Goals*, the Brookings Institution, USA.

supportive of regional economic growth.²² The answer lies in a more holistic and integrated approach to the management of water.

The need for adequate water governance in the Murray Darling river basin system

Australia's water development and management problems seem to stem from the terrible drought in Western NSW and North Western Victoria in the early 1880s. The rains did not come for 5 years. The land was seared to the point it became a barren waste. During this great drought, the sun shone down each day, and it was said that in the unbearable heat "the earth cracked open with thirst".²³

The wheat withered on the stalk and the famished stock perished. Along the Murray Darling stations, the sheep were said to have died in their tens of thousands. If that wasn't enough to contend with, a rabbit plague descended upon the region - devouring the remaining grasslands, and leaving behind only a trail of starvation and blowing desert sands. Settlers everywhere were leaving the land.

At this time, Alfred Deakin had become Cabinet Minister, Solicitor General, and Commissioner for Public Works and Water Supply in the Victorian Government. In 1884, at less than 30 years of age, he was appointed President of the *Royal Commission into Irrigation*. His mandate was to turn the theory of irrigated agriculture into practice.

Deakin went in search of a solution to the State's water challenge. In late 1884 he left for a study tour of California, Utah, Colorado, Kansas and New Mexico. He found a land of similar climate, history, soils, condition and people. There were differences of course, in terms of soil fertility, stream hydrology; and the US approach to water rights. However, the magical transformation of vast desert lands into oases of economic development and social progress was remarkable.

Inspired and awakened to a grand solution that would secure Victoria's future, Deakin returned to Australia in 1885 with an aspiration to irrigate Crown Lands using the US model. This path however was beset by red tape. A major land developer from California, lured by the potential of windfall profit, then appeared in Victoria to see the problem first hand and assess the potential business opportunities.

This individual actively lobbied Deakin for a land grant and a water right. However, as the guardian of State rights, Deakin had public obligations to uphold. This ambition was caught up in months of constitutional debate over the planned irrigation scheme and legislation.

²² Planned and staged investment on capital works projects and greater government spending on public good infrastructures and services, on an annual or sustainable investment basis, could remove considerable business risk for small to medium size farmers - transferring instead this component of risk to the government - reducing transaction costs, building local and regional economies, and allowing family and community operations to focus instead on innovations of water efficiency and mitigation of environmental degradation.

²³ Hill, E. (1946).

Australia had always belonged to all the people. The land was not to be exploited by or for the individual; whatever the incidental gains to the community. As in Britain under ancient and common law, rivers and streams were publicly owned and accessible to those living along their banks.

In what essentially became a political contest for economic resources, the South Australian and Victorian Governments each conditionally granted 250,000 acres of land to the developer. These grants had a 'perpetual' water right attached, so the new techniques of irrigation could be demonstrated. The Murray Darling basin of yesterday was the fruit of all these efforts.

The "good old British water right", based on Roman precedent, was overstepped by discriminatory politics. This decision to remove the protection of access to water and basic sanitation as a public good - in preference to treating water as an economic resource - was made in the 19th Century by the Victorian and South Australia Governments. It was ignorant of the greater public interest, and might not be in line with any concept of good governance promoted today. It has come at great cost to the common wealth of all Australians.²⁴ The Murray, Darling and other rivers and streams were allocated politically, as economic resources to individuals and corporations, including both domestic and foreign developers.

It could not have been known at the time, but the seed was planted whereby Australian governments would be unable to effectively regulate the collection, distribution and discharge of water for over 100 years. Today the land has been fully exploited and suffers from high salinity levels, the water is polluted and over-allocated, and the living environment is rapidly dying; at the same time, unsustainable profits (i.e. economic rent) and windfall gains are accruing to the few at the expense of the many average Australian citizens. It has also been established by the South Australian government and is clearly recognised that the water rights allocated to irrigators are 'not enforceable' into perpetuity, but mere 'licenses'.²⁵

²⁴ For a discussion of the concept of water as natural capital - the shared public wealth of Australia - as the environmental stock that yields the useful flow of public goods and resource goods and services, see Daly (1996). *Beyond Growth: The Economics of Sustainable Development*, Beacon Press, USA.

²⁵ McKay, J. (2007). *The Quest for Environmentally Sustainable Water Use: Constitutional Issues for Federal, State and Local Governments*, online at www.unisa.edu.au, accessed 1 June 2007. "They hang the man and flog the woman, that steal the goose from the common, but let the greater villain loose, that steal the common from the goose."

The state laws that allocated the water for agriculture were introspective and freely gave water allocations in the form of licences in order to develop the economy of each state. The water licences were treated as property rights to water attached to land even though they were mere licences. The belief that the licences were inviolate developed in all states except South Australia, where the Minister in the 1970s exercised the power to reduce allocations in time of drought.

The quantum allocated under various state schemes did not account for ecosystem services; the aim was to maximise productive output. There were often too many water users in a catchment or an aquifer - and emphasis was placed on ensuring equity between them - and not the greater question of what is left after allocation to preserve the sustainability of the resource. As a result, 25% of surface water and 34% of

On reflection, the South Australian and Victorian Governments of the day chose to question the wisdom of 800 years of British governance. The developer of the original 500 acres of wilderness lands along the Murray River acquired this perpetual water right (i.e. license), which was vested in an irrigation trust that transferred to settlers at the rate of 1 share per acre. Later, as open rebellion in the squalid, rapidly expanding urban settlements of South Australia was feared, the South Australian government actually began to give the rest of the Murray River lands and waters away. This “most open hearted and democratic offer”, as it has been described, saw the rioters take “50 acres a piece and all the water they could carry”.²⁶

In those early years the irrigation trusts quickly “learnt to beg, borrow and coerce their respective governments for public finance”. They needed to concrete and cobble up as many drainage channels as they could. Then as the soldier settlers returned from World War 1, reclamation of Murray Darling river basin became the new focus.

Swamps were drained, levies were erected, and more pumps were put in. The annually submerged floodplains were redeemed for the occupation of humans. Labelled as one of Australia’s greatest achievements, at the time, this transformation of the environment came at great cost: “one of the most wonderful natural sanctuaries of wild fowl and wild life in the world was lost” to civilisation.

By this time the New South Wales Government, which had “magnanimously allowed Victoria and South Australia to adopt the Murray for innumerable irrigation farm schemes”, proceeded to invest around “8-million pounds in construction of the Burrinjuck Dam, and the Berembed and Yanco weirs”. Within this region there was around 1,000 miles of channelling. Roads and the factories for produce were built, and electricity supplies were developed. This scheme alone assured water for a million ‘new’ grazing acres. Today, these past developments have raised questions as to the long-term viability and sustainability of irrigation and dry land farming in some Australian regions.

The net result of all this economic development was the “rapid colonization” of the Murray Darling river basin system, in a world that was still moving in slow motion. The upside was that the Australian market for fruit and vegetables was secured. Much of the produce grown was bound for export, just as it is today.²⁷

The social and environmental costs however were immense. Tens-of-thousands of acres of swamp and floodplain were reclaimed, diverse ecosystems collapsed, and “all the aboriginal tribes along 1,000 miles of river were disposed of and gone within a generation”. Right across

groundwater resources were over allocated. The results were environmental degradation such as blue green algal blooms and acute regional water shortages”.

²⁶ Hill, E. (1946).

²⁷ Grubel, J. (2008). *Australia Splashes A\$13bln to Secure Water Supplies*, online at www.enn.com/ecosystems/article/35488, accessed on 29 April. “the nation's drought-hit food bowl produces about A\$22 billion (\$21 billion) worth of food exports”.

Australia these costs are now being borne by today's generation, as this land of natural wonders continues to deteriorate at a rapid rate. The "land of the rainbow gold" may soon struggle to "pay us back threefold".²⁸

Today, agricultural and mining interests throughout Australia seek further concessions, in the midst of a drought.²⁹ This includes capturing disproportionate amounts of what constitutes essentially public good supplies of water that are the lifeline of communities while contributing to the pollution of the remaining drinking water supplies.³⁰ Domestic urban use represents only 11 % of national water use.

The current policies seem inefficient and may be contributing to distorting markets and keeping export commodity and produce prices low. The end result of the current practices may be the accumulation of wealth in the hands of the few private individuals. The incalculable real costs of inadequate access to and control of water are probably accruing to an unsuspecting public, particularly economically and socially disadvantaged Australians (e.g. our indigenous communities). It is conceivable that these increasingly limited water resources could be put to higher value-added uses and in developing a more robust Australian economy in the greater public interest.

It is not yet even fully appreciated that Australia is today perceived as one of the driest continents in the world. Water information is kept from the public domain and remains firmly in the hands of private individuals and corporations; all these seem shrouded in 'commercial-in-confidence' agreements between private sector entities and State and Territory governments. In the midst of a prolonged drought, with urban and rural water restrictions, citizens might be interested to know that not only urban dams have been traded off to private sector mining interests. Other public water supplies may also have been traded off to private and corporate economic interests. All information on allocations of water need to be made available in the public domain, in a transparent manner, to ensure that political and other public leaders can be held to account for their policy decisions and actions.

The founders of this great Federation could not possibly have foreseen these problems. Worse, on this field of political contest today, individuals and families in Australian communities are now being asked to drink and bathe in processed sewage and industrial waste (a.k.a. recycled water). It is not quite clear yet what happens if the environment were to collapse from unknown

²⁸ Mackellar, D. (1908). *I Love A Sunburnt Country*.

²⁹ McKay, J. (2007). "The major water user is agriculture, which uses up to 70 % - domestic/urban use amounts to 11 % - with the rest being used in commerce and industry and for power generation (19 %). More than half of the water used for agriculture is used for livestock, pasture, grains and dairy. Of the total amount allocated by volume, 76% is surface water and 23% groundwater.

³⁰ Hall, E. (2007). *Parched City Agrees to Give Water to Gold Mine*, The World Today website, Australian Broadcasting Commission, accessed at www.abc.net.au/worldtoday/content/2007/s1923513.htm, online on 15 May. "In New South Wales, a city facing a water crisis has just made a difficult decision and allowed one of Australia's largest gold mines to continue buying water from the community's dwindling supply".

contaminants entering rivers and streams, or if the health of the people were to become degraded, e.g. to the point that even human reproduction failed?³¹

The imperative for economic efficiency, resulting in the many Australian river basin systems being taken to breaking point,^{32, 33} should be of major concern to local communities who have lost control of powers over water. This should be seen as a most visible sign that Australia's market economy is NOT recognizing the public good value of wholesome and clean water in its domestic applications - and indeed, is NOT tracking towards sustainable development. This might be a very unfair and unjust result for the good citizens of Australia. Given the increasing awareness of today's generations on these issues, proper focus and attention of policy makers in this area may be vote winners in elections.

The need for adequate management of Australian water

There is a critical need to now protect the shared public wealth of Australia, in support of public and private interests. Central to this is the protection of water supplies and the wider environment, which are in need of repair. The sanitary and environmental risk must be properly controlled in order to prevent any threat of society being pulled back to developing world levels. Expert scientific supervision is indispensable for efficiency, economy and public safety.³⁴

³¹ Sanderson, J. (2007). *Globalisation: Where To From Here?*, Chartered Practising Accountants of Australia Congress, Sir Charles Court Oration, Lieutenant-General John Sanderson, AC. "In Chaos Theory", one of the new sciences, there is the inherent understanding that it is the last Straw that breaks the camel's back and collapses things into a new state of existence. To continue in my own words the metaphor that is contained in this ancient saying; when you do not fully comprehend the breaking point, is it wise to keep on piling on the load?"

³² Endersbee, L. (1999) *Australia's Great Arterial Basin*, Emeritus Professor Endersbee AO, ASTE Focus, Australian Academy of Technological Sciences and Engineering, No. 108, July/August. There is "Substantial and permanent damage is being done to the aquifer by the present uncontrolled usage; and the economic cost to the nation of the present bad practices is so great that the costs of immediate correction are quite trivial by comparison. In a matter of such vital importance to the national economy, there can be no question of insufficient funds".

³³ Hall, E. (2007). *Howard Urged to Make BHP Mine Pay for Water*, The World Today website, Australian Broadcasting Commission, accessed at www.abc.net.au/worldtoday/content/2007/s1923513.htm, online on 2 April. That legal arrangement is degrading the Great Artesian Basin, it's threatening the ecological survival of the unique desert mound springs. They don't have to pay for that water, that's free of charge, that 42 million litres of water every day.

³⁴ Dangerous micro-contaminants that cannot be fully removed from water supplies include pathogens, pharmaceuticals, nano-particles, industrial chemical poisons, nerve agents, blister agents, choking agents and hallucinogens. It is now recognised that low level chronic doses - that cannot be detected nor removed - can have long-term effects of humans. Some advanced countries choose to put precautionary health measures in place to protect their populations, and others to protect both their environments and populations.

For example, following commissioned research that confirmed the influence of food additives on behavior, the British government is trying to encourage private companies to eliminate food dye from products as a protection against attention deficit disorder (ADHD) in children. Other water contaminants can be associated with *reproduction problems* in women and *cancers* in men.

The proposed water reform exercise should be structured to encompass more than simply leaving some regulatory controls in State and Territory government hands, and assigning other disjointed regulatory functions to the Australian Competition and Consumer Commission (ACCC). An independent national public water regulatory commission may be required. The aim should be to promote and pursue sound water management and sustainable development in an integrated manner, inline with social equity, environmental sustainability and economic efficiency, and indeed, international best practice for water governance. Australia's democracy is stable enough to undertake such a task. There is also demand for increased public confidence that the Federal government now has the competency to deal with this problem in an effective and fair way, through inclusive governance and inter-government cooperation.

As a down-side to the rise of the global economic market and the pursuit of economic cost reductions, the ability of Australian government to sustain adequate policy and scientific research capabilities has been compromised in recent years.^{35,36} This raises serious questions about the capabilities of public service to ensure that the full impact of government decisions impacting the environment and the health of the population are fully and objectively considered.^{37,38} The strategic challenge of adequate reform of water governance, across all levels of jurisdiction, in the public interest and to the benefit of all Australians, requires the development of independent and objective advice. Indeed, a section of the Productivity

³⁵ Prasser, S. (2006). *Royal Commissions and Public Inquiries in Australia*, LexisNexis Butterworths, Australia. "The policy advisory sphere of government has become increasingly crowded with the proliferation of ministerial staff, research bodies, think tanks and consultants... In recent times, many of the permanent research advisory bodies have been abolished and the resources for those left reduced and under increasing influence of departments".

³⁶ Australian Public Sector News, *Australian Public Service Leader Fears Advice Adversity*, online at www.psnews.com.au, accessed on 19 July 2007, Canberra, 2007a. The Australian Public Service Commissioner Lynelle Briggs has renewed her call for something to be done: "The Australian Public Service is in danger of losing its ability to provide strategic policy advice"... further clarifying concern "at the erosion of the APS's capacity for research, analysis and evaluation".

³⁷ Hancock, L., Burnup, C. & O'Neill, D. (2006). *Public management: study guide and readings*, Master of Public Policy and Governance Program, Faculty of Arts, Deakin University, Victoria. "The increasing use of consultants for the provision of policy analysis and advice to government has been accompanied by the systematic diminishing of the policy capacity of the public sector in the guide of downsizing, privatisation and outsourcing. As a consequence there are now some serious doubts regarding the policy capacity of some areas of government".

³⁸ Australian Public Sector News, *Minding the Minders: The Growth and Growth of Ministerial Staff*, online at www.psnews.com.au, accessed on 23 July 2007, Canberra, 2007b. "In the UK, the doubling in the number of 'special advisers' has attracted criticism. Beyond matters of cost and numbers, debate has focused on the role, conduct and behaviour of the staff, particularly the political and media staff, known pejoratively as 'spin doctors'. There is thus growing awareness that personal staff are an awkward fit in Westminster-style political systems. In Australia, there are concerns that their presence has challenged, and, some argue, diminished, the role of the Public Service in the provision of advice and support to Ministers".

Commission is already supporting the call for a comprehensive public review or *Royal Commission of Inquiry* into the issues of water governance.^{39, 40}

Some recent examples that may suggest the loss of Australian government capabilities include: the Water Department supporting States and Territories pressured by high rates of urbanisation serving processed sewage and industrial wastewater in individual and family homes in Australia (*perhaps wrongly defining it as an economic problem of public monopoly supply*, and potentially allocating more of the public good supply to private individuals and corporations as an economic resource) at great risk to human health; the National Water Commission supporting the over-allocation of water in rivers and streams (*perhaps wrongly counting groundwater twice in the national water accounting model*, and potentially putting private individuals and corporations in line for a great windfall profit when trading of water rights is legislated), at great risk to environmental integrity; and, the Productivity Commission supporting the downgrading of strict water quality standards (*perhaps wrongly opting for a risk and hazard assessment approach*, and potentially allowing private individuals and corporations to pursue ‘business as usual’ to pollute and degrade the natural environment in a legal environment of mere unenforceable guidelines) leaving the public with no recourse for damage to health and environment from the actions of private individuals and corporate entities. This downgrading of possibly already inadequate protections is an interesting case to elaborate.

The downgrading of absolute water quality standards into guidelines in Australia, and the removal of core public health and environmental protections

The switch from absolute water quality standards to the risk and hazard assessment approach was only introduced in Australia over the past 4 years.⁴¹ It seems to have been promoted on the basis of a program of subjective and biased research in 2000 that did not fully understand the concept of ‘social equity’. The study “benchmarked the performance of ‘economic infrastructure’ industries”, instead of examining water allocations as a public good.⁴² It compared “regulatory

³⁹ Government of Australia (2008). *Towards Urban Water Reform: A Discussion Paper*, Productivity Commission, Melbourne.

⁴⁰ Tipping, D. (2008). *Petition to the Legislative Assembly of the ACT*, tabled on 1 April 2008 (in the afternoon), drawing attention to the Assembly that *access to good wholesome water is the core of the Australian people’s civilisation and the source of Australia’s national health and well-being*.

⁴¹ Online at portal.water.wa.gov.au, accessed on 12 May 2007. The current ADWG (2004) emphasises the importance of preventative management of drinking water quality and focuses on identifying and managing risks in a pro-active way rather than reacting to problems as they arise. It provides a flexible framework to apply a risk management approach to the protection of drinking water quality in a range of local conditions.

⁴² Government of Australia (2000). *Arrangements for Setting Drinking Water Standards: International Benchmarking*, Productivity Commission, AusInfo, Canberra. “Guidelines are non-enforceable with discretionary compliance. Standards have the force of law, must be complied with in a specified timeframe and are usually backed by penalties for non-compliance...”

Ideally a framework should be in place to determine whether the guidelines or standards are effective and efficient.... A national regulatory approach is consistent with a universal right to good quality drinking water...

processes for the development and enforcement of quality standards, in Australia and overseas, against accepted best practice principles”;⁴³ policy makers opted to downgrade public health protections under the guise of economic efficiency, and to the detriment of a spectrum of Australia’s political classes.

“Consultations with governments and industry had identified this as a particularly useful area for examination at the time”.⁴⁴ It is not clear if communities were properly consulted. It was subsequently found that “without rigorous regulatory assessment, it was difficult for authorities to fully justify existing standards, which varied across and within jurisdictions. It was also difficult to make sound decisions about infrastructure investments, in the face of pressures to adopt new technologies”.⁴⁵

Unfortunately, “few in the public are aware of these changes and what they imply. In this context it is not very hard to argue that a small technological risk could lead to enormous consequences”.⁴⁶ The intended introduction of processed sewage and industrial wastewater in Australian communities, for example, may therefore have ignored the ‘real’ social and sanitary needs of the community. This may be a careless approach that ignores the public good characteristics of wholesome and clean water. Technology has found that it is not possible to

(The Productivity Commission determined) National standards may not have regard for differences in local community preferences and the economic costs of compliance... Where local circumstances and preferences vary, uniform standards may not be equitable... Not all individuals benefit equally, as some groups, *particularly those who are immune-compromised*, require higher quality drinking water than others in the community”.

⁴³ Ibid. “In particular, health benefits, although real, are difficult to substantiate and quantify... In contrast with Australia, suppliers in the US, EU, UK and France must comply with national drinking water regulations which are supported by strong enforcement mechanisms. This approach provides consumers with more certainty that their drinking water will not be contaminated...”

In the UK, the Drinking Water Inspectorate carries out inspections of individual suppliers on the information provided, the quality of water supplies, compliance with sampling and other statutory requirements, and the progress made on improvement programs...

Consequently, enforcement costs (*already* in Australia in 2000) may be lower than those in the US and UK because compliance is assessed less... In Australia, accountability appears to be weaker... this reflects a failure to clearly delineate and define the roles and responsibilities of those involved in the development of drinking water guidelines... Accountability is further weakened when standards are not specific concerning their requirements”.

⁴⁴ Ibid. “This report provides information that should promote and facilitate the necessary public debate before reform can take place”.

⁴⁵ Ibid. “The efficient level (of the quantity of contaminants in drinking water) is a matter requiring economic or benefit-cost assessment to determine the level of resources that should be allocated to meeting public health objectives... High quality drinking water that protects all consumers, including immunocompromised people, may not be affordable to the entire population and may require additional resources”.

⁴⁶ Pers. Comm. Anonymous (2007).

remove all the micro-contaminants and that certain segments of the population may therefore be at risk from the use of such processed wastewater.

It is however *not only immune-compromised persons* who are susceptible to emerging, resurging and drug-resistant disease. The Australian demographic also has many pregnant women (*and those wanting to be*), infants, children, weak and frail persons, including those suffering from substance abuse, elderly citizens, and those other persons suffering from serious illness - *all of whom are more susceptible to disease*. This selected path of economic efficiency should be of major concern, particularly to that marketing segment entering retirement and seeking a good social life free of disease.

For adequate water governance at the economic development-public good political decision-making interface, there is a ‘real’ need to apply social, sanitary and environmental criteria, even for minority groups.⁴⁷ Water supply and sanitation systems are most fundamentally ‘social and sanitary infrastructures’, and are inextricably linked to protection of wholesome water supplies and the wider environment, and the health of all of the population. The recent shift to risk prevention guidelines unnecessarily threatens the good health and safety of the whole of the Australian population.⁴⁸ The current piecemeal approach to water reform may not be cost effective or efficient if it does not shift to a more holistic approach.

The irony is that Australia now has a water quality guideline that appears to be detrimental to sanitation and public health. These decisions that impact adversely on local communities seem to have been taken at higher levels of government, in disregard of the well accepted subsidiarity principle of good governance.⁴⁹ Individuals and families and even some Senators seem unaware of this important change in quality standards.

⁴⁷ Government of Australia (2000). “The US EPA is required to take into consideration the effects of contaminants on infants, children, pregnant women, the elderly and individuals with a history of serious illness, and other relevant factors (SWDA Section 1412(b)(3)(C))... In recognition of the compliance costs imposed by the US EPA’s standards, there is a provision in the 1996 SDWA amendments for financial assistance... to enable suppliers to make improvements that allow them to comply with revised standards”.

⁴⁸ Ibid. “The alternative is to set a guideline or standard with a low factor of safety, accepting that there is a possibility that some people may become ill”.

⁴⁹ This is a problem. A more responsible framework for environmental governance is both necessary and urgent. The national solutions to these threats may be inadequate, as State and Territory borders cannot effectively resolve them. There is a widening literature of further potential for sub-national resource wars and spill over effects evolving.

Threats to public health are another major consequence of globalization; borders are unable to prevent the spread of disease or pollution. The good health and well-being of individuals, families, communities and societies needs to be a priority issue on agendas. In fact there has also been a splintering of the existing platform for health development at the global level, into a disconnected set of parallel, vertically-driven initiatives. This result now fails to promote public health as a holistic, in-series idea, with each layer a veneer reinforcing access to water and sanitation as the bedrock foundation of the modern public health system, in support of overall improvement that also prevents ill health.

It seems to be possible to serve inferior water to some people on the basis of cost efficiency.⁵⁰ It is also unclear whom the public can hold to account for their ill health and associated economic losses, and the lack of sustainable development at the local level.⁵¹ This is only one example of inadequate government advisory capability. It now requires more study to ascertain why such political decisions were taken to the detriment of social equity.

Given what is known in many areas of health and environment, as well as what cannot be totally disproved scientifically, the Australian government is not gaining traction on some key security issues. Meanwhile, the alternative is clear - inferior health and a degraded living environment retard the productive economic growth of 2-billion people in the developing world. The many warning signals do not seem to be registering in Australia yet. Policy makers need to operationalise sustainable development.

The fundamental challenge for governments remains that of rendering the population more healthy and vigorous - and thereby more productive, happier and longer-lived.⁵² It is from this sound public health platform that can be erected the processes for sustainable development. The spirit with which the challenges of Australian civilisation are to be approached and solved must therefore be of cooperation, “between factions, parties, social classes, regions and the like”.^{53, 54}

⁵⁰ Government of Australia (2000). “Without transparency, accountability is diminished and proper consultation is unlikely to occur”. Of the countries studied, the US seems to have the most transparent and robust regulation-making process. By comparison, there is less rigour in Australia...

Further, *there is no framework at the national, State or Territory level which requires a comprehensive assessment of health, economic and social (equity) objectives* to ensure that the recommended guidelines are effective... Ideally, the process by which a drinking water guideline or standard is developed should be transparent and provide for public consultation”.

⁵¹ It was the hard earned gains of yesterday that secured prosperity for the Australian population and the quality of life that is enjoyed today. The endowment of community water and sanitation systems has helped to ensure this way of life for over 100 years. The ‘protection’ of our wholesome water supplies is the protection of our ‘public health protection measures’. In this sense we are living from the benefits of intergenerational equity.

⁵² Rawlinson, R. (1854). *Rawlinson on the Drainage of Towns*, William Clowes and Sons, London.

⁵³ Dahl, R. (1971). “The relevant units for cooperation or conflict need not be individuals but aggregates – factions, parties, social classes, regions, and the like. What we are concerned with, then, are the beliefs that people have about the prospects of cooperation and conflict among relevant actors in political life, whether these are individuals, organizations, or other actors...

At one extreme, relations among actors may be viewed as a strictly competitive (zero-sum) game, where the central rule is: what you gain, I lose, and what I lose, you gain. Since we have everything to lose and nothing to gain by cooperating, we believe that the best strategy is strict competition: never compromise or cooperate but try to win completely on every issue...

At the other extreme, relations among actors may be seen as strictly cooperative. Here the central rule is: *not only is there no conflict between us but our interests are identical or so intertwined that we stand to gain or lose altogether*”.

⁵⁴ Parsons, F. (1911). *Legal doctrine and social progress*, B. W. Huebsch, New York, 1911. “A real democracy is the only government that can be relied upon to serve the public interest entirely and conform to

It may not be prudent to take any unnecessary and unjustifiable risks with water and the overall development of Australia's river basin systems.⁵⁵

Current direction of Australian water reform and the Draft Water Amendment Regulations (2008)

The intention to now implement water trading, prior to the introduction of a broad national policy framework on water management that will ensure that the quality of water and environmental integrity are the same for all Australians irrespective of where they live, may prove to be irresponsible. It may reflect the lack of information and understanding of the overall Australian water challenge, and the required political course of action to ensure sustainable development. For example, the involvement of the private sector in water provision and management requires a policy framework and an enabling legislation for a strong regulatory body that is independent of the government (see Appendix I - V).

Such a regulatory framework will ensure that providers have a fair return on their investment, that consumers get value for money, and that overall supply and demand management is sustainable in terms of ensuring inter-generational equity and environmental soundness. This will also provide for water quality standards that are enforceable and not mere guidelines.

On the issue of the trading of water, consideration should be given to setting the price at a level that will cover the cost of remedying the damage to land and waters, and make possible resources for investments in research and technologies for assuring sound water management and sustainable agriculture including national food security if deemed necessary. Failure of water allocation reforms to recognize and respond to the peculiar needs of small scale farmers and other rural community operators might not be in the interest of some individuals and families who wish to maintain a more traditional Australian rural lifestyle with a good quality of life, or the Australian population who want their rural counterparts to have access to basic health, and those who value the wholesome Australian environment and expect it to be protected by its leaders. It might therefore be prudent and equitable to establish several tiers of 'water resource' allocations for trading, some of which could be auctioned at an acceptable base price in each tier including these categories:

- large scale export-oriented, high intensity agriculture or mining scheme allocations (who pollute and cause much environmental damage),
- medium scale mid-intensity domestic and export agriculture or mining scheme allocations, and,

justice and the public good along the whole line... When men follow truth and the public good, they come together... divergence is an indication of error”.

⁵⁵ Ibid. “In a real democracy, the law will be the embodiment of the principles of justice and common sense, and will encourage good and repress evil with impartial hand and the minimum of cost and friction”.

- small scale family-oriented low intensity domestic agricultural and horticultural schemes (who cannot compete efficiently in the global economic game, but provide food security to the region and nation).

Such an allocation system could also be structured to lure urban families and semi-retirees with skills and resources back to smaller rural towns and communities, in support of greater regional economic development and growth; though these citizens would have high expectations of access to public goods, environmental integrity and regional economy to support their good health and quality of life.

Once the national framework and the regulatory arrangements have been established, then the implementation of the agreed quality standards and regulatory measures should be left to the lower levels of government - even if this requires changes in the current constitutional arrangements.⁵⁶ Decisions in respect of water, including irrigation issues, and sanitation management, should be made closer to the people who bear the brunt of these policy measures.⁵⁷ Experience highlights that access to water is easily manipulated politically, and that there have always been interests that could capitalize on its lack of access.⁵⁸

Beneficiaries of water resource allocations have strong political connections and leverage. An approach to reform then should not simply aim to rearrange the initial distribution of water resources - arrangements whose legal and constitutional validity are debateable - in isolation from the interests of other political stakeholders. Unfortunately these other stakeholders are sometimes ill informed by government and the press, or indifferent to politics in general, and might be quite surprised at the extent to which some fellow citizens and corporate entities seek to influence government for private economic gain. The current state of affairs might also be deemed as a failure of the Australian public service in helping to articulate options and their opportunity costs. It might also be evidence of entrenched biases at the State and Territory levels trying to preserve inequalities in access to water resources, political resources and exercise of power at the federal level.

The recent curtailment of political and civil rights and freedoms in Australia, by way of recently enacted terrorism laws, adds to the dilemma. It may not be responsible for governments to hide

⁵⁶ Government of Australia (2003). *The Constitution, together with proclamation declaring the establishment of the commonwealth*, as in force on 1 June, Statute of Westminster Adoption Act 1942, Canberra. Section 100: "The Commonwealth shall not, by any law or regulation of trade or commerce, abridge the rights of the State or the residents therein to the reasonable use of water of rivers for conservation or irrigation".

⁵⁷ See original Act's of Local Government in NSW and Tasmania, Australia's first penal colonies.

⁵⁸ Hough and Sedgwick (1929). *The Human Mechanism: Its Physiology and Hygiene and the Sanitation of Its Surrounding*, Ginn and Co., Boston. In fact 19th Century, towns and cities quickly found that certain persons "lacked fitness to act as the guardians of the public welfare" or "could not be put incharge of public supplies and public services owned and/or controlled by the municipality".

information on water security from the public and prevent its discussion by professionals. For example, this might increase the potential power of a government to coerce and compel opposition parties, who may possess superior knowledge of alternative approaches to sound water governance, supported by civil society groups who use non-violent means to articulate their view points. Such curtailment of dissent might not be in the interest of competitive politics, nor indeed that of the public.

A possible example of the use of public policy for private economic gain may be the recent allocation of funds in connection with water rights. For example, questions might be raised about the former government's proposed \$10-billion funding package to its minority coalition partner's support base. In trying to force the government's hand, the recent threat of this lobby to increase the price of food stocks might be deemed as socially irresponsible.⁵⁹ The change of government presents an opportunity to consider other approaches such as removal of access to subsidized water resources and increased taxation on export industry profits, as an alternative to food price increases. It is clear that the shroud of secrecy surrounding water allocations results in information of public concern being hidden from the public. This state of affairs is dangerous to the public interest.

The method of trial and error associated with the proposed roadmap for evolution on water governance may therefore not be a suitable, acceptable, or feasible pathway to water, public health and climate security. It certainly does not appear to be strategic, efficient nor effective. The federal government should instead aim to maintain Australia's "pluralistic social order",⁶⁰ by empowering citizens to participate in decision-making on the wide reaching reforms on water needed to achieve sustainable development.⁶¹ Effective legal and constitutional restraints on the potential for government coercion and compulsion should also be reinstated.

⁵⁹ Eastly, T. (2007). *Farmers Warn of Fruit and Veg Price Hike*, AM website, Australian Broadcasting Commission, accessed at www.abc.net.au/am/content/2007/s2022053.htm, online on 3 September. "Struggling irrigators in the drought affected Murray-Darling Basin are warning the price of fruit and vegetables grown in the region will have to rise significantly unless there's big rain over the next few months. Farmers are already paying more for their water and they say they'll have no option but to pass on soaring water costs to their customers, right around the country".

⁶⁰ For a discussion of pluralistic social order, some elements of which may have been traded off by Australian governments over the past 20 years in the name of economic efficiency, see Dahl, R. (1971). "An advanced economy not only can afford but also requires the reduction of illiteracy, the spread of universal education, widespread opportunities for higher education, and a proliferation of means of communication. Not only can it afford to produce an educated workforce, but it needs one: workers able to read and write, skilled workers who can read blueprints and respond to written directions, engineers, technicians, scientists..."

⁶¹ By a Water Drinker (1829). *The Water Question*, published by order of the honourable the House of Commons, Britain. "That every person may be enabled to exercise his own judgment in this case, we shall endeavor to arrange the principal circumstances, as detailed in the documents printed by the authority of Parliament". "There is such a thing as common sense; but from the delusions which have been practiced in this wealthy city within the last few years, it may be presumed that few only possess it, or that wisdom is not the result of experience".

The Water Department's intended actions will have a major impact on the future quality of life and prosperity of all Australian communities. As such, the public as the major stakeholder needs to be able to monitor these properly and provide adequate and timely feedback for this government process to be successful. More effort must therefore be made to disseminate information that educates the public on water governance and allows them to participate in this process of critical national importance.

For example, citizens need to know facts concerning the issue of water allocation rights with respect to:

- the principles governing water allocation, and if there has been over-allocation of water?
- do these draft regulations legitimise State and Territory government allocation decisions on water - assigning water rights to individuals and entities, possibly into perpetuity?
- is compensation payable to these individuals and private sector enterprises, including foreign corporations, when no water is available in the river system to fully meet their allocations?
- are we acting wisely, if we *jump* straight to water trading without having a strong regulatory body with integrated regulatory controls in place?
- what are the climate change interface issues, in terms of mitigation and adaptation?
- what is the difference between water as a public good (for public health and environmental integrity) and therefore requiring public regulation; and water as a resource or economic commodity, and therefore subject largely to market determined forces and pricing?
- what can history tell societies about the best way forward, and in terms of best country practices?
- and importantly, what are the current rights of State and Territory residents under the Constitution, to the reasonable use of water of rivers for conservation or irrigation?

My initial observation in consideration of the draft regulations is that the Australian Competition and Consumer Commission (ACCC) seems to be structured largely as an advisory body to the Department. This may be an inadequate arrangement. It is important that we ensure that the regulatory body has sufficient powers, resources, assets, knowledge, skills, data and competencies on water governance, so that it is not overly stretched to take on this wide ranging and critical national mandate at this time.

There is a need to regulate water nationally and also on an integrated basis. Furthermore, the lack of independence on the part of the ACCC in decision making may also not be in conformity with

international best practice currently being promoted in developing nations by institutions such as the United Nations, the World Bank and other global institutions. The race to water trading may be the result of a misconception that no-one owns Australia's waters.

A wholly independent body might be preferable, as boundary watcher (to monitor the boundary between states and markets), and umpire to ensure equitable treatment of all stakeholders. The basis of the legitimacy of any regulatory body stems from its capability to rigorously approach facts, seek information, weigh the state of empirical information, current state of technology and research and draw evidence-based conclusions for its regulatory functions in an impartial way through a widely accepted and transparent process. There is a critical need for reflection on the two sets of judgment: knowledge-based judgment (that is the remit of regulators) and political judgment (the area of policy) and the associated trade-offs.

Other issues that need to be addressed include:

- whether the Department may have allocated insufficient time for consultative processes, including empowerment of the public to participate,
- whether the internet may be an insufficient platform for outreach that can include and inform all citizens in all communities,
- whether adequate resources are available to local government authorities to ensure they are included to participate in the consultative processes in order to uphold community interests,⁶²
- ensuring that at Australia's indigenous people are included and adequately resourced to participate in the consultative processes, to protect and uphold indigenous interests,
- that irrigators, mining companies, and productive enterprises may have met with the Government (on water as a resource) and that those records may be withheld from public scrutiny,
- that confidential submissions can be withheld from the public inspection,
- that it is not made clear that any international advice received from foreign governments on water governance issues must be fully disclosed, and,
- that the issue of intended reallocation of water resources, on a political basis by the former government, may have failed to duly consider the biased historical allocation of water rights at the State and Territory level, and the possible need to now work from this initial basis in achieving good water governance

⁶² For a preliminary discussion on why success in water management has always been and remains contingent upon local knowledge of conditions, local interest and care in resolving the problem, and local experience to protect the public good, see Rawlinson, R. (1854).

A holistic approach to water management

A more responsible approach for the federal government might be to initiate remedial measures and pursue water reforms taking into consideration international best practice. A new roadmap would need to be tailored to the Australian situation, to be pursued through strategic management, leadership and innovation. This would present the opportunity for a major shift from past practice on water management, and could reposition Australia for a period of long-run productivity that supports the Australian way of life and values. There is a need for solidarity of effort that will benefit all Australians equally; the indigenous people of Australia should have an input in decision making.

As regards the Australian challenge, there may be the need for a new paradigm of sustainable development suitable for the rapidly approaching 'age of water', with a new roadmap that includes:

- a declaration at the national level of access to wholesome and clean water as a public good to which every citizen should have equitable access,
- new leadership on more holistic water management, public health and climate security, which covers in an integrated manner all State and Local government functions on water,
- creation of an independent regulatory agency with integrated powers, covering both quality and economic regulation, and adequate research capabilities in urban water system management and geo-regional water planning and management,
- clarification of the role of the Attorney-General Department's involvement in water issues so that it does not impede public debate and discussion on water policy issues,
- allocation of sufficient resources for the provision of adequate water and sanitation and more holistic water management as a public good.

Australia has the opportunity to lead the world in good water governance. The increased demand for the finite supplies available is worsening water, public health and climate threats, and these could potentially create social conflict. Australia's political system is robust enough to enhance the empowerment of the people to effect remedial and corrective measures using government as the tool.

Our political stability provides the necessary basis for competitive politics by which Australia's future prosperity also can now be reinstated; many factors discussed in this submission, if not handled properly, will only undermine our inclusive democracy. The Australian psyche is able to balance public and private interests, because of Australia's special history, and can now be reinvigorated to prevent the progress of Australian civilization being impeded by insufficiently informed political, institutional and policy paths for urgent water reform.

Summary

Good water governance is the challenge. Based on research conducted at the global and national levels, this submission presents information that aims to bring greater clarity to the complexity of Australian water reforms, underscoring these facts:

- the underlying value of wholesome and clean water supports the need for an effective system of water governance;
- strong and independent regulation is essential to prosperity and the Australian way of life;
- achieving the democratic ideal in water governance in Australian society demands establishing an overall national policy framework as an efficient and effective approach to more holistic water governance and sustainable development;
- that there is a need for adequate water governance in the Murray Darling river basin system;
- the need for adequate management of Australian water;
- that there has been a gradual but steady downgrading of absolute water quality standards into guidelines in Australia;
- there has been the removal of core public health and environmental protections;
- the current direction of Australian water reform and the *Draft Water Amendment Regulations (2008)* needs more public participation to ensure that the concerns of the populace are addressed; and,
- that there is a need for a more holistic approach to water management.

My overall perspective in summary is that:

1. There is a need for a broad national policy framework on water management that will ensure that the quality of water and environmental integrity are the same for all Australians, irrespective of where they live.
2. If the private sector is to become involved, *then* there is a need for an enabling legislation for a strong regulatory body that is independent of the government, to ensure providers have a fair return on their investment, that consumers get value for money, and that overall supply and demand management is sustainable in terms of ensuring intergenerational equity and environmental soundness, and that there are water quality standards (i.e. enforceable standards, and not mere guidelines).
3. Once the national framework and the regulatory arrangements have been established, *then* the implementation should be left to the lower levels of government irrespective of

the current constitutional arrangements, so that activities in respect of water, including irrigation issues, and sanitation management, are made closer to the people who bear the brunt of these policy measures.

I have also attached in Appendices to this submission: a comprehensive report on Australian water governance (2007); select excerpts from my water security submission to the ACT Government on the intended introduction of processed sewage as drinking water (2007); my recommendation to the Legislative Assembly of the ACT on addressing water, public health and climate security (2008); my submission to the former government on the role of the private sector in the supply of water and sanitation services (2006); and, my petition to the Legislative Assembly of the ACT requesting the establishment of a comprehensive public enquiry into water governance by a *Royal Commission of Inquiry* to protect and safeguard the health, well being and constitutional democracy of the Australian people (2008).

These documents are all directly relevant to the draft *Water Amendment Regulations 2008*, particularly the issue that relates to Section 100 of the Australian Constitution. Three great driving forces - globalisation, urbanisation and environment - are today challenging the Australian Constitution and have damaged representative government, the rule of law, and the fundamental rights and freedoms embedded in democratic ideals. In concert, these factors result in the extremely high likelihood of adverse impact to prosperity and quality of life in all Australian communities, and by extension, to the progress of the Australian civilisation. These additional issues then need to be considered in this public consultation process.

Yours faithfully,

David C. Tipping

DC Tipping

Appendix I – Not in the public supply please

Attached in separate pdf file.

Appendix II - Excerpts from water security submission to the ACT Government

- We see the end result of the unreasonable use of water every day. It plays out in terms of pollution, over-allocation, widespread environmental degradation and ill health. So just how did we get to this crisis point? Water governance became adequate when populations came to put the public protection of health first in the 19th Century.
- There may be a problem with our constitution, but it is possible that it is just with the interpretation some people take of Section 100. This article states that “the Commonwealth shall not, by any law or regulation of trade or commerce, abridge the rights of the State or the residents therein to the reasonable use of waters of rivers for conservation or irrigation”. It seems to be of social and sanitary importance, to conserve the health of our citizens and ensure a sufficient allocation of water for our national food security.
- The human health risk presented by residual chemicals from industrial waste and other pollution after processed sewage treatment, is also not well established in the literature. The contamination of the water supply with both sewage and industrial waste pollutants is detrimental to both the public’s health and the environment, and by extension, our national health and welfare. There is a ‘real’ question over the limits of detection for many pollutants, most of which are currently not measured or regulated, and have unknown toxicity. The debilitating impact of water chemistry-related disease is in fact not understood well, but the ‘real’ cost to national economies and security has been seen before.
- The lesson is that we should not place our wholesome water supplies at risk, and with due care we should ensure that downstream communities and the living environment are not exposed to such hazard.
- The life expectancy of citizens is the strongest indicator by which to measure the efficacy of all public institutions devoted to serving the public interest. It is also the best testimony to success. There is a failure of governance when people’s health is put at risk. The intended plan by putting at risk access to good quality water that has been at the core of public health protection in Canberra (and elsewhere in Australia) may be a signal that participatory democracy as the cornerstone for public decision-making may be failing. Australia’s peak engineering body state that good governance requires that governments initiate and implement arrangements within their jurisdictions to optimise economic and social conditions for their citizens.
- Serving processed sewage and industrial waste as drinking water is not safe, even if the technology is there. We need to husband and manage our water resources more prudently than we currently seem to be doing in Australia. The plan should not be implemented without appropriate public due-diligence, conducted by an independent body. There are many acceptable non-potable applications where water manufactured from processed sewage could be substituted for wholesome water. However, over-allocation of water that results in forcing others to treat sewage at great expense, for drinking water use, could be defined as an unreasonable encroachment on the general rights of the public, and this might not be sanctioned by our Constitution.
- Besides Australian water being too good to waste, we need it for our national health, welfare and safety.

Appendix II – Recommendation to Legislative Assembly of the ACT on addressing water, public health and climate security

It is recommended that a Commission of Inquiry be opened into urban water governance, particularly community water and sanitation systems, and the intended use of purified sewage/wastewater for human consumption and hygiene. Such an inquiry should address *inter alia*:

a. Technical Issues:

- 1) Drinking water quality standards
- 2) Maintaining the integrity of water and sanitation systems
- 3) Upgrading of water and sanitation technologies
- 4) Dual reticulation systems
- 5) Augmentation of public drinking water supplies
- 6) Science and technology research needs, in support of the development of holistic water and sanitation systems
- 7) Pollution control, in support of sanitary economy and public health
- 8) Knowledge management, training and skills
- 9) Infrastructure planning for growth
- 10) Geo-environmental planning and evaluation

b. Economic Issues:

- 1) Public value of water and sanitation systems
- 2) Infrastructure requirements for future economic development (in context of international trade and commerce)
- 3) The market for purified sewage/wastewater, in support of trade and investment policy
- 4) Costs to the economy of mixing purified sewage/wastewater with the domestic potable water supply (e.g. lost productivity, medical and pharmaceuticals, bottled water, boiled water, tourism, industrial treatment, insurance premiums, etc.)

c. Governance Issues:

- 1) Principles of good governance; integration, partnerships, participation, transparency and accountability
- 2) Regulation of supply, distribution and discharge of water
- 3) Institutional governance arrangements between federal, state and local levels, to ensure due process is followed and implementation gaps are closed at the local level
- 4) Governance improvement to ensure ongoing independent audit and oversight of water management for essential human needs in Australia at the local level.
- 5) Establishment of strict standards for the reuse of water manufactured from the human and industrial waste stream, to replace the draft guidelines
- 6) Planning and water resource allocation for primarily human use, with consideration of environmental, agricultural and industrial use, for the long term in Australia.
- 7) Security against the misuse or diversion of funding allocated to ensuring quality of water and sanitation services.
- 8) Legal safeguards to protect public health and sanitary economy.
- 9) Protection of local cultures and industries, in support of economic growth
- 10) International development cooperation
- 11) Skills availability for proper water and wastewater management in government agencies
- 12) The historical perspective of Australian water management, and the lessons learned.

Appendix IV – Submission on the role of the private sector in the supply of water and sanitation services

Attached in separate pdf file.

Appendix V - Petition to the Legislative Assembly of the ACT

Attached in separate pdf file.