

# Below the Double Bottom Line: The challenge of socially sustainable urban water strategies

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*This paper identifies some challenges in developing culturally intelligent approaches to urban water planning and services. Recent research on connections between urban water managers and social and cultural researchers highlights the need for better alignments between ordinary people's practices, motivations and aspirations around water and climate change, and the forms of knowledge water planners and policymakers take into account.*

*Despite their lip-service to 'triple bottom line' assessment of policies and developments in terms of their economic, environmental and social costs and benefits, Australia's policymakers have advanced no further than a 'double bottom line' based on economic and environmental values, the latter preferably expressed in dollar terms. The 'economic' (or market relation) also substitutes for the 'social' dimension in a continued policy emphasis on 'customers' rather than citizens or community members. An overemphasis on marketing psychology, a lack of social, political and cultural theory, and neglect of people's actual practices means that much policy and research around water fails to grapple with such basic social elements as gender, different roles and access to resources within households, cultural diversity, or ethical orientations.*

*A major challenge is to mobilise rather than ignore the altruistic and socially-oriented human capacities for adapting to change beyond the customer relation—including by collective innovations in values and practices.*

## 1. INTRODUCTION

Recent interview-based research (quoted below in italics) conducted by the author as part of a National Water Commission Fellowship project on how urban water managers connect with humanities, arts and social sciences (HASS) researchers showed that many water professionals were well aware they needed to take into account social and cultural factors when planning and implementing water services, but had a somewhat patchy understanding of 'social sustainability' (Sofoulis 2011a). As the water industry was among the first in Australia to tackle seriously the question of climate change, it is an important source of knowledge and ideas about how to approach—and how *not* to approach—broader scale adaptation to climate variability. A key point is that the currently dominant model of the domestic user as customer may suit water service providers, but is an inadequate, misleading and ultimately debilitating model for climate change adaptation because it fails to acknowledge peoples' ethical motivations. In order to foster socially sustainable adaptation strategies, we need much broader and deeper understandings of people, society and culture than those available through market research and behavioural economics.

## 2. ATTUNING TO THE SOCIAL DIMENSION

Emergent concerns with social sustainability (and more particularly, managing the risk of projects running aground through controversy), as well as new approaches to sharing responsibility for urban water planning, conservation and climate change adaptation, have alerted water managers to the importance of social research and community engagement processes:

*I would argue that anyone senior involved in water managing – it doesn't matter if it's managing stormwater, rivers, wastewater systems or drinking water supplies –*

*you can't manage those effectively without taking into account the social norms and the social attitudes to the resource. [...] it's a contested area. There's a lot of interest groups. [...] Pity help people who don't take into account the views of their community and the social trends going forward because you'll just never get a project up. – Senior water manager*

Water professionals find their role changing in response to people's demands for more involvement in water planning and servicing decisions. Although water authorities enjoyed exercising their expertise without challenge for almost a century, the rise of ecological sciences and environmental advocacy since the 1960s and 1970s have contributed to a transition from the historical top-down state-based historical form of water governance or 'hydrosocial contract' (Turton and Meissner, 2000; Brown et al, 2009) to a multilateral situation where civil society, non-government organisations and other bodies of expertise become involved in water management. Some senior water professionals observe a shrinking of their role as a consequence of these shifts:

*We're no longer the kingpins. We're important influences but we're not the sole central authority for delivering water supply.*

Water managers' decision-making processes are now having to give more weight to community concerns that extend further than the traditional worries about microbes and public health risks:

*Previously it was always the engineering section was the decision maker. Very rarely was it considered on what community expectations were. It was about having some high level standards, often public health ... and the idea was to deliver the most cost effective outcome to meet the standard.*

More water managers are starting to appreciate the value of interactive participation. As one communications manager expressed this shift:

*The things that the [water utility] could have got away with in the 90s and earlier, they turn up, they plonk their water treatment plant or wastewater plant or whatever and say here it is, it's good for you, take your pill and deal with it and move on. ... [Now] it's a completely different philosophy and it's driven by the community and community expectations.*

One sustainability manager understood social sustainability to mean *'that the water utilities and the community effectively form a beneficial partnership in improving resource efficiency, so it's got a win-win feel to the design of it.'* There was generally a sense that socially sustainable water planning and services entailed some degree of engagement with, and participation by, the public. However the quality of that engagement could range from passive receipt of information in showbags, which one manager saw as *'giving good quality information in a package that they can access and understand'*, to responding to *'a significant project on behaviour change in the water sector'*. Campaigns like Brisbane's *Target 140* (litres per person per day) or Melbourne's voluntary *T155* were seen as *'around the community taking some sort of social responsibility ... for their water use'*, which had prompted *'a much greater realization about the role the individual has in managing ... and achieving sustainability.'*

By the end of the noughties, some water managers started to feel that they had *'sort of done behavioural change to death'* and reached *'a point where people sort of have changed their behaviours'* and were not sure where to go next. One Victorian research manager found some sectors of the community:

*... are really saying, we've changed the way we value water and you're not reflecting that. You're not reflecting that in the projects that you do, you're not reflecting that in the communications that you do, in the stories you put out, in the way you engage with us, in the prices that you give us, all these different things.*

## 2.1 Emergent paradigms

There were signs of rising awareness that social sustainability meant more than receiving information or obeying water conservation injunctions, and entailed concepts of life satisfaction and community well-being:

*... it's about quality of life issues from a inter-generational point of view. So it's about people having jobs, educational equity, not having to commute a long way, opportunities and support for people locally. All that infrastructure. - Research manager*

*I think it is about satisfaction – community well-being and satisfaction. [...] if we can help to influence people's overall happiness by providing a safe and enjoyable environment then that's part of it. - Policy analyst*

A few planners recounted how they were diverging from the top-down 'old-fashioned ... engineering type approach', where conventionally 'we go and work out a solution and then we involve them [the public] right at the end. There were emergent models of participation that involved people in a more 'bottom-up' process, where 'instead of going out there with a plan to the community and saying, 'Look at all these pretty colours! This is what we're going to do!', we actually go out with nothing – just a piece of paper, almost.'

Not all water experts willingly relinquish their traditionally unchallenged powers to define problems and solutions, leading one water planner to complain that her department was still:

*... more interested in that technical aspect [...]. So therefore they'll bring in people at the end of a decision-making process, rather than getting them involved at the start. Whereas my understanding of 'social' is to make sure that people are there right from the beginning in that whole decision-making process, and so there's that knowledge-building as you're going along with it. I think they're gradually realising that they have to be more involved socially, but I'm not sure they know how to do that, at this stage.*

More open-ended approaches to social research and community engagement can reveal disparities between the views of water experts and publics. One consultation process found 'The community wanted much more aggressive targets on water conservation than what would have originally been in the plan.' However the fear of revealing such disparities can lead water planners and managers to avoid community consultations and social research:

*Sometimes I think it's a bit of a fear of saying 'we don't really want to know because it might make things more complicated'. It's like 'let's just ignore all that stuff and barrel along'. Which is probably why water professionals are conservative because we don't want to know that the community is ready because it's easier if the community isn't ready.*

## 3. LOCKED UP SOCIAL VARIABLES

Instrumental concerns to manage controversy and quell community opposition to their proposed actions may well motivate water providers and authorities to engage with communities, but the rewards can potentially be greater than gaining public acceptance for new facilities and services. Reflecting on his three decades researching community attitudes to water, Geoff Syme (2008: 104) writes that 'given a facilitative environment, the community is often prepared to make choices which are decidedly more innovative than those currently being made on their behalf'. Community engagement can improve governance by working as a form of participatory democracy which at its best can result in good decisions made on the basis of thorough deliberations in which a full spectrum of views are aired and considered. Some stakeholders will even accept decisions they disagree with if they feel their dissenting arguments have been afforded a fair hearing. Syme argues that in addition to the triple bottom line of environment, society, and economy, sustainable management of water needs to pay more attention to institutional factors, especially the quality of decision-making processes (Syme, 2008: 107) and how fair they are perceived to be by the public:

If we are to advance towards sustainable water futures it is important to free up those things which are currently holding it back. The social, institutional and cultural variables thus become of paramount importance. These must be underpinned by processes that are seen to be procedurally and interactively just. (Syme, 2008: 110-111)

What are some of these locked up variables and impediments to addressing the social dimensions of sustainable urban water services, and what culturally intelligent' approaches could be adopted?

### 3.1 Water Institutions and Society

Contemporary water managers lay claim to a proud history of delivering tremendous public health gains through the provision of safe and reliable supplies of drinking water and convenient water-based sanitation. But it seems that once the municipal systems of provision were in place, 'black-boxed' into the background fabric of urban life, so too were the social aims and effects of big water systems. Despite earlier recognition of the social benefits of water, and the ongoing importance of social considerations in water planning in countries like Indonesia and South Africa, in Australia from the 1990s onwards 'The use of water for social aims has disappeared in preference to modern economic rationalism and the tendency for governments to refrain from intervening in society more generally' (Syme & Hatfield-Dodds 2007: 18).

The social, political, economic and technical decisions that led to the construction of big water systems are effectively 'black-boxed' into the design of the systems themselves, based on principles of extraction and abundant supply rather than conservation and sustainability. Yet when climatic conditions require cutbacks in water consumption, few water experts are prepared to acknowledge how the water systems themselves are 'saver-unfriendly' (Sofoulis, 2005) and how the convenience of piped domestic water encouraged increased levels and types of consumption, such as through the appliances it fed (e.g. flushing toilets, automatic washing machines, sprinklers requiring mains water pressure). By failing to acknowledge the effects that the supply of water has on the household demand for it, water demand managers can paint themselves out of the picture and portray the end-users as having sole responsibility for the water coming out of the tap. On top of blaming users for the profligacy of water systems on which they are unavoidably dependent, water managers are also wont to criticise consumers for being captivated by the fantasy of endless supply of water on tap that the water profession worked so hard to provide.

A more culturally intelligent approach here, in the sense Ien Ang (2011) develops in a recent essay on complexity—an approach that 'negotiates complexity' by avoiding simplistic reductions on the one hand, and paralysing multiplicities on the other—would be for the water industry to acknowledge its historical role in generating the high levels of urban demand that in climatically variable times it cannot continue to guarantee to supply, and to become better cognisant of the social effects of urban water systems, for example, in generating new norms of consumption, and new standards of personal cleanliness and sanitation.

### 3.2 Marketisation and the 'MasterCard'® model

The principles of 'triple bottom line' sustainability (environmental, social, economic) were articulated in the late 1980s, underscored in the Rio Earth Summit, and adopted in principle in some resource management reforms (e.g. of forests and water) in the 1990s. This period more or less coincided with the frenzy of marketisation, privatisation and corporatisation that greatly impacted water management in a process euphemistically termed 'reform'. In this context, where the economic bottom line was *the* bottom line, 'culture as an input to water resource policy has been given little or no substantial attention', except for 'avoiding unacceptably negative social impacts', according to Syme & Hatfield-Dodds, who found 'The 'social' bottom line was given little emphasis in the early period of reform' (Syme & Hatfield-Dodds, 2007: 18). Preoccupation with economics meant natural resource managers and policy advisors 'often resist genuine community engagement and attention to social values and equity issues' (Syme & Hatfield-Dodds, 2007: 19).

One effect of this unfortunate timing in Australia was the subsumption of the social by the economic. Whereas the 'classic' model of triple bottom line sustainability is often pictured as three equal circles representing environment, economy and society, and the 'bioeconomy' model pictures them more like an egg, with the economy nested within a broader society (the 'yolk'), in turn within a larger environment (the 'egg white'), the model of sustainability under marketisation is a 'double bottom line'.

It can be pictured as resembling the 'MasterCard'® logo—with just two intersecting circles of economy and environment, with sustainability' achieved by trade-offs between the two. Instead of society being composed of citizens or members of communities whose lives have values, connections, narratives and meanings beyond dollar amounts, there is a Thatcherite view of society ('There is no such thing as Society'), composed of private individuals, *homo economicus*, all competing to maximise profits and benefits, and to minimise losses and risks.

### 3.3 Customerisation

In shifting from being government powers to corporatised bodies, Australian water authorities eagerly embraced their new branding as businesses. Where the focus of traditional water management had been on the average consumer (Sofoulis, 2011b), it was now on 'the customer'. Studies by sociologists and cultural researchers showing how consumption norms are driven by the infrastructures of provision, and by shifting cultural values around sanitation, cleanliness (and more recently, odourlessness and freshness; see Shove, 2003) are ignored in favour of market research and behavioural economics based on the assumption that just as Pavlov's dogs learned to salivate at the sound of the dinner bell, people too will respond to 'price signals' designed to recondition their consumption behaviours. Society and environment researcher Patrick Troy observes that water authorities 'take refuge behind economic arguments that pricing structures can lead to reduced consumption but seem not to accept either the issues or rights of access to potable water or the equity aspects of the pricing regimes they favour.' (Troy, 2008: 198).

The customer model has multivalent effects. Consumer responsibility for water use is diminished because the customer model demotes the idea of common good and promotes the idea of entitlement to use whatever one can pay for. But against this, when the drought was set in and demand management measures implemented, the customer could be targeted as an individual guilty and responsible for their water use, and thus obliged to make water-saving 'green consumer' choices. As Elizabeth Shove (2010) has pointed out in her critique of the pastiche of behavioural economics and psychology in the 'Attitudes-Behaviour-Choice' model that widely substitutes for social, political and cultural theory in the water, energy and climate change sectors, the 'green consumer' model limits change to those small technical shifts that can be achieved by improving efficiencies within current social and technical norms without challenging those norms themselves or creating different types of infrastructures.

What would be a culturally intelligent alternative to the customer model? One starting point is to unlock the assumption that turning water into a commodity automatically turns water users into customers. It is a socially unrealistic assumption—since most people in households are users of water without being themselves customers of the water company, and only occupy the 'customer' role when it comes to paying a bill or making a service complaint. Moreover the evidence from household studies and from people's water behaviour in drought (Sofoulis and Williams, 2008) is that people are motivated to save water more for environmental and social reasons—such as 'doing one's bit' for the community— than for sheer economic reasons, though the latter are factors in decisions such as whether to install a water tank or recycling system. Despite marketisation, they retain an altruistic sense of the common good, exhibiting behaviours not confined to those of *homo economicus*. Water managers themselves interviewed for the National Water Commission study reported a degree of surprise at how well people complied with water restrictions, leading many to the realisation that communities could be more than targets of behavioural change programs, and could actually be effective partners in co-managing urban water demand.

However, this effect seems to have had little impact on the government sector, judging by recent reports on urban water by Australia's National Water Commission (2011) and the Productivity Commission (2011) that emphasise customer diversity and choice, and urge a step back from blunt user-blaming demand management tactics and water restrictions, considered of dubious economic and environmental benefit. Both attempt to simplify the complex demands on urban water utilities down to customer supply and servicing. In contrast to the international and Australian water industry's *Cities of the Future* vision of integrated planning for urban sustainability, each Commission admonishes water utilities to pull back from the 'liveable cities' agenda. Even though both reports recognise that complying with restrictions during drought 'gives individuals a sense of community spirit and solidarity by working together to achieve a common purpose' (Productivity Commission, 2001: 210), neither addresses social sustainability, nor do they value the potential contributions from people and groups with altruistic and pro-environment motivations. For the Productivity Commission,

Consumer choice is economically superior to restrictions. Those with a preference to restrict their water usage should be able to do so, but this should be voluntary. Those preferring to use more water should not have to put aside their preference for greater water consumption (Productivity Commission, 2001: 202).

The National Water Commission's report acknowledges that levels of society exist beyond individual customers, but wants to redefine these as customers too, calling for the water industry to 'widen[...] its definition of potential customers to encompass those with responsibility for or interest in public health and broader environmental and social outcomes', so that 'local governments, developers, catchment management organisations, health departments and others may purchase outcomes and services directly from water service providers to contribute to their particular commercial and policy goals' (NWC, 2011: 44). Like water conservation, urban liveability is evidently reduced to just another customer choice.

### **3.4 The Gendered Household**

One of the basic facts about societies around the world is that they are internally differentiated by gender, along with other markers that could relate to age, social status, ethnic background, religious faith, etc. Yet a remarkable feature of water management discourse in Australia—including that on the 'social dimensions—is the almost complete lack of reference to gender. A pervasive way in which the water sector black-boxes gender is through its focus on the household, the unit at which domestic water use is metered, and consumption data gathered. As Lahiri-Dutt points out,

For many years, programs dealing with irrigated agriculture, domestic water supply, environmental sanitation and industrial development have seen 'the household' as the lowest unit of production, consumption and decision-making. Yet, it has been clearly established that in most cultures men and women, often supported by children, do different work, have different access to resources and different areas in which they can make decisions and exercise control over resources and benefits. (Lahiri-Dutt, 2006: xxx.)

Denying these basic and almost universal social facts, 'Water experts see the family as the lowest unit of data, thus making any gender analysis difficult' (Lahiri-Dutt, 2006: xxviii ). The household is also the prime target of the water sector's social marketing campaigns for the residential sector—for example offers of rebates on water-saving equipment, conservation tips, etc. that are included in the household water bill. However, water consumption practices inside households are very rarely investigated by the water industry. Instead, isolated individuals are surveyed for their opinions. Combined with the persistent notion of the genderless 'average consumer' we get the socially nonsensical picture of a household as comprised of 'average' individuals that have their unique surveyable opinions yet make unified household decisions about using water.

One way of opening up the black-box of the household unit is through 'microsociological' (Medd and Shove, 2007) and ethnographically oriented studies, which can involve detailed observations, discussions, and reflective self-reporting, as well as household tours and mapping exercises. Water diary exercises and interviews have found that far from being internally consistent in their water practices, households could be water multi-cultures, where people of different generations, prior background (e.g. rural or non-Australian), and of different genders had different ways of using and relating to water, and different motivations for saving or not saving it (Sofoulis and Williams, 2008, Lahiri-Dutt and Harriden, 2008, Maller, 2011, Strengers, 2011). Because of the water industry's traditional focus on averages, total household consumption and large statistically analysable samples, and its more recent emphasis on marketing and customer demographics, these studies are rarely funded by the water industry. Findings about diversity are not as easy to funnel into scientific or statistical demand management models or marketing, where it is easier to pitch mass media to the '*low-hanging fruit*' of 'average' or normal consumers living in undifferentiated and isolated households.

### **3.5 Masculinised norms**

Turning water into a technical issue with large-scale solutions has the effect of 'black-boxing' gender, because technical solutions usually present a façade of gender neutrality despite being developed and implemented almost entirely by men (Turton, Schreiner and Leestemaker, 2000). Policy researchers Davidson and Stratford make a similar point about the legislative instruments of water governance they studied in Tasmania, which 'appear gender-neutral but remain largely "masculinist" in their

effects' (Davidson and Stratford, 2006: 37) through their exclusive emphasis on technical solutions, quantification and scientific method, and their inclusion of 'only those users who take and use water from the system' and a corresponding lack of concern with environmental stewardship and non-consumptive values and uses of water (Davidson and Stratford, 2006: 39). Despite Australia being a supporter of UN declarations on sustainability and other 'meta-policy' statements, such as the 1992 Dublin Principles which recognised that 'Women play a central part in the provision, management and safeguarding of water' (ICWE, 1992), such noble positions are 'largely unreflected in institutional arrangements for water management in Australia' (Davidson and Stratford, 2006: 35), which still 'appears gender neutral—a gloss that masks and naturalizes a masculinized norm' (Davidson and Stratford, 2006: 32).

A small-scale example of a masculinised norm is the smart metering technology favoured by many governments and water utilities. 'Smart meters' represent a high-tech rationalist approach to domestic demand management, attributing 'excess' consumption to a deficiency of information that digital surveillance devices can help overcome. They assume consumers will make rational calculative decisions about quantities and costs of resources used. Yet studies of household practice (Shove, 2003, Strengers, 2011) show that people do not plan to consume volumes of resources, but rather seek to achieve certain social, aesthetic and technical goals—such as clean bedding or clothes to wear to work. Consumption occurs inconspicuously whilst accomplishing such routine tasks, which implies that changes in goals and routines could reduce consumption. In assuming that quantitative data emanating from yet another digital screen will cause a reorientation of domestic practices, water managers are practicing a gender biased form of 'mini-Me-ism' (Sofoulis, 2011b: 805), abstracting water from its use in practice and projecting their own technicist, rationalist, engineering assumptions onto the supposedly 'gender neutral' householder. While some women may welcome smart meters as an empowering means of gaining more control over consumption, many may find digital data too disconnected from their obligatory tasks and social norms to prompt significant change.

This author agrees with Davidson's and Stratford's call for an 'ethic of care' to be more openly embraced and expressed in water policy as one way of giving more voice to the concerns of women, and more generally for the concerns of majority of people—including water managers themselves—who want to look after the needs of future generations and ameliorate the despoliation and transformations that lack of care for the diversity of people in society and lack of environmental ethics have provoked.

#### **4. CONCLUSION**

A shift is underway from the earlier form of hydrosocial contract, where the state and its water technocrats took sole responsibility for water service provision to a population of beneficiary citizens, to a point where scientific and engineering expertise may be contested by members of the public and organised advocacy or resistance groups, and water planners have to make room for other voices to be heard. Further evidence of this growing recognition of the social dimensions can be found in the *Cities of the Future* process, workshops and documents developed under the auspices of the International Water Association, where the water industry signals its aspiration to step back from the technocentric approach, and reorients itself in alliance with a range of other sectors and urban services that might collaborate to create 'liveable' and 'water-sensitive' cities in which the public would have the developed capacity to be co-responsible collectors, consumers and recyclers of water (Brown et al; Sofoulis and Williams 2008). Progress towards water developments that are sustainable on all fronts is still retarded by insufficient grasp of the 'social, institutional and cultural variables' (Syme, 2008: 111), including the entrenched view of people as bundles of behavioural variables to be reengineered to suit supply constraints. Nonetheless, with the federal government more focussed on customers, markets and economic efficiency than on citizens, communities or intergenerational equity, it is a promising sign that despite its imperfect understandings of people, society and culture, the water industry is willing to reopen the social agenda of water services, and to glimpse the possibility of partnerships with householders, communities and other sectors to adapt to less predictable and more extreme rainfall patterns.

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