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Yes it's not Sustainable but it is not my fault!

The Water Focus
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How could putting an additional one million people into Melbourne, Sydney and Brisbane ever have been thought to be sustainable? Believing we could meet the water needs of these communities by fixing a few leaking taps and having shorter showers was always a fantasy.

Yet infrastructure investment has lagged until recently, and State treasuries are taking around \$1billion a year in revenues out of the urban water industry. In retrospect this never looked smart.

But it was the rapid climate shift that caught us out. The climate shift over the last decade has seen inflows to Sydney storages drop dramatically by 72% of that experienced during the comparatively wet period of 1950-1990. Inflows are now 28% of that experienced over that comparatively wet period.

The last decade has been the driest on record for the Melbourne catchments, which only received 40% of the expected rainfall and storages have dropped from 1700 GL to 535 GL. Inflows to the Southern Murray-Darling Basin seem to have dropped by around 40% and we have largely emptied the major storages of the basin. Our understandings of water availability and the agriculture we could support have been made during this unusually wet period and they are no longer sustainable.

It seems to me that we need to design a new irrigation system that uses about half of the water we have become accustomed to. I believe we can do this, and probably double the wealth we make from water, but it will be a different irrigation system. We face a squeeze on water, and need to get through the blaming and get on with living with what we have. Adelaide people love to blame Cubby station, many love to blame ricegrowers, but in reality it is all of us.

Can our system of governance handle an issue like sustainable use of water?

Yet for each of our options to meet the water needs of the cities – be it new dams (Brisbane), recycling (Toowoomba), desalination (Sydney) or long pipelines letting us pinch someone else's water (Victoria) there will be an articulate and focused campaign of opposition. Listen to the special pleadings – farmers everywhere seem to think this is unfair and have been seeking to block water reform in Victoria and Queensland. The mayor of Wakool says it is not fair if his town can't keep its green lawns and has promised civil disobedience when threatened with the water restrictions necessary to hold back water to ensure supply to towns and urban communities for as long as possible. One wonders if water held in upstream storages to provide some emergency supplies for Adelaide would ever in fact get down the river, or would the army be required to patrol and stop pumps sucking it out each night.

Interest groups are always seeking to protect their particular interests at the expense of the wider community. For example in discussions about the Prime Minister's Plan for Water Security, the Queensland rural lobby group Agforce objected to licensing and metering stock and domestic

bores. They have always just taken what they wanted, and often wasted much water. Yet now as we confront real water scarcity, and seek to measure and control the extraction of water, they object and get an exemption from the rules that others must follow. Its a bit like having a Credit card where you only have to pay for some of the items you charge.

Whose fault is it that in a democracy a focused interest group will always act in their own interest rather than in the interest of the whole society? Does this make sustainable management of water resources an impossibility in Western democracys?

Those who live upstream will always believe they can take what they want, and can pollute what goes to those downstream. When State borders get in the way it just gets more difficult.

Now we confront tensions between States in how we manage the dwindling waters of the Murray-Darling Basin. Should we use whatever we have to keep trees and vines alive this year and hope that it rains, or should we hold some water back in the storages to give rural towns and Adelaide itself some water for next year if rains do not come? This is a challenging question for our politicians and for our society. Is praying for rain a reasonable strategy?

How do we allocate the available water between urban users, irrigators and the environment? All desperately need water and all believe their cause is paramount? One must question if a scarce and critical resource like water can be managed in a Western democracy where interest groups seem always able to subvert the broader public interest.

Can our Brains handle Variability and Resilience?

While we are brought up with a poem that tells us we live in a land of droughts and flooding rains, we seem unable to understand the variability of our climate. Every drought is called a one in a hundred-year drought, even when they seem to happen every couple of years. We seem to believe the odd good year is the normal rather than the unusual, and the rest is some dreadful act of God. As historian Michael McKernan has commented, every drought is greeted with indignant surprise

A few good years and we pushed agriculture into the Northern parts of South Australia where we soon learned to our cost that it wasn't sustainable. Goyder urged caution, but was over ridden by "practical" yet ignorant and greedy men. But the good times could not last, and they did not last, and as we returned to the normal we had to abandon these farms and towns laid out with such optimism. Farmers have always been remarkably optimistic that good times would come.

By now we should have learned that praying for rain is no substitute for good planning if we are to cope with the variability in our rainfall that seems to be likely to increase.

Yet we have a blueprint for managing our water. The Prime Minister and the Premiers have agreed on the principles for addressing this issue, and it is enshrined in the National Water Initiative. Since 1994 in each round of water reform Governments have committed to restoring over allocated systems to sustainable levels of extraction, but they never get around to doing it. There are challenges for science in determining sustainable levels of extraction, especially in a drying climate, and interest groups will challenge any such judgment, but this is no excuse for not making a serious start on this journey. It is really pretty simple housekeeping. How much water do we have to allocate? Once we have defined the consumptive pool, then Governments have agreed that markets

are the way to allocate the available water. Government can choose to invest in infrastructure to help deliver this water.

Determining the sustainable levels of extraction is not a trivial question, since it is not average conditions we must plan for, but the extreme event that can push an ecosystem over the threshold from which it can't recover. In the Lower Murray we now appreciate that a natural drought on top of the man made drought caused by over extraction of water for irrigation has caused the loss of thousands of redgums, and it is unlikely they will recover. Redgums need a good wetting every 6-10 years if they are to survive, and we have removed these medium-sized floods from the system.

As we stress a natural system it tends to lose its resilience, its capacity to recover from shocks. Understanding where these thresholds occur is a current issue for science; for our community the question is how close to the edge of a cliff do we as a society wish to stand.

However difficult the current situation with water scarcity is, it does present us with opportunities as well as threats. While we may have only half the water we have been accustomed to, we have large amounts of money available to refurbish our irrigation systems. We have the opportunity to drive a revolution in irrigation, where we can double the wealth we obtain from this water, or we squander this money in trying to slow down the changes that will take place.

Firstly we need more discussion about what we are seeking to achieve. Do we seek to maximize the long-term national wealth from irrigation? Do we seek to maximize wealth in particular regions or do we seek the social sustainability of regional communities? Are we trying to be self sufficient in food and fibre or can we buy what we want on world markets? Why do we need irrigated farming at all? If we seek to be a global seller and buyer of foodstuffs, what are the risks of a global pandemic of some disease that will cause us to close our borders and prevent trade? Should we seek to be self sufficient in food?

We need to be clear as to what we are trying to achieve, and then use the available funds to help us focus on the transition we need, rather than use them to slow down the changes at the behest of particular interest groups, who will be noisy in their clamoring for special treatment.

What will the irrigation area of the 21st century look like? Can we rebuild existing irrigation districts to look like this, or are the farms too small and the layouts too inefficient for modern irrigation? Should we start again with new greenfields irrigation areas on the best soils? Most of the high technology irrigation of the last decade has been on such new greenfield areas rather than attempting to retrofit old systems. With \$10 billion to invest we have great opportunities to build irrigation communities that are economically, environmentally and socially sustainable. Is this possible in a western democracy, or will we squander this money pandering to special interests?

We face unprecedented change in our climate and many are confused and even paralyzed by the changes. We must help communities understand the changes they are experiencing, help them envisage alternative futures, and assist them with the resources to aid the transition, not pretend it will all go away if we just keep giving them emergency relief. This seems to me the key to a sustainable future.

I started with the difficulties of managing water scarcity in a western democracy. There is little doubt that our present practices are not sustainable. But whose fault is it? Governments seem to have

replaced serious thinking and planning with focus groups and listening to interest groups. But it is we who drive the focus groups, so maybe it is our fault if we don't like the outcomes we achieve.

We need a new ethic for how we confront water scarcity

- Do unto others, as you would have them do unto you. Upstream people do have obligations to those who live downstream, and if they take too much water creeks downstream will dry up and deprive those downstream of critical water.
- Do not covet your neighbor's water. Long pipelines are costly, but it is generally a myth that water elsewhere is being wasted. In our tropical North there is abundant water, but the floods that rush to the sea drive important fisheries, including the prawn industry that we all enjoy.
- Maintain the health of our aquatic ecosystems for all other uses are dependent on this health. We must determine the sustainable levels of extraction, and stick within this rather than allow mismanagement and thefts to destroy the foundations on which our wealth is based. We have agreed what has to be done with the National Water Initiative; we just need to get on and do it. Define the consumptive pool with our best science and let the market allocate within this pool.

These three ethical points and the National Water Initiative give us the path of sustainability if we choose to take it.