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**WATER POLICY, GLOBALLY AND IN AUSTRALIA: AN OVERVIEW**

You of all people will know how fundamental is safe water to human health and well-being, both directly for drinking and hygiene, and indirectly as the basis of everything we eat and much of what we do.

The reality is that inadequate water supply inhibits economic and social development and human and environmental health, and can lead to political instability, and to conflict and migration within and between countries.

As a result, there is now a global commitment to work towards achieving the availability and sustainable management of water for all people by 2030 – just 11 years from now. Key targets within this Goal are to achieve universal and equitable access to safe and affordable drinking water, to halve the proportion of untreated wastewater and to manage scarce water resources sustainably, to improve water use efficiency, achieve integrated water resource management everywhere and to protect and restore water-related ecosystems everywhere.

These commitments are part of a comprehensive push for sustainable development, known as 'Agenda 2030', adopted by the UN General Assembly in 2015. There are seventeen Sustainable Development Goals, intended to cover the full range of development objectives, one of which, Sustainable Development Goals is on water and sanitation.

These include goals for health and nutrition outcomes, and build on the Millennium Development Goals which guided poverty reduction efforts between 2000 and 2015.

The water and sanitation goal is particularly important because unless it is achieved, and water is well managed at the national level and with transboundary water systems, it is difficult to see how any of the other goals can be achieved.

The Goals are described as integrated and indivisible but in reality some are mutually dependent and others are mutually conflicting. There are real tensions between some of the goals – for example simultaneously achieving food production and environmental goals when there is insufficient water to fulfil the ideal needs of both, as we often experience in Australia. This requires a degree of compromising of one or the other.

Just achieving the water goal in and of itself is very challenging. For all people to have access to safe drinking water requires around thirty percent of us, that is over two billion

people getting an affordable and accessible drinking water supply they do not now have. The unfortunate arithmetic is that to achieve this goal alone in the 4123 days remaining between now and 31 December 2030 will require around 500,000 new drinking water services to be installed every day, seven days a week.

Unsurprisingly, many countries, and therefore the world as a whole, is not on track to be able to provide access to safe water and sanitation for all their people by 2030.

There has been by and large a 'business as usual' effort but as is the case with climate change, 'business as usual is not enough'. To get on track, big changes are needed in how many governments manage water and prioritise their efforts.

Not being on track has many tragic consequences but among them are the incredible burden suffered overwhelmingly by women and girls carting heavy water containers long distances for their family's subsistence.

Apart from the amount to be done to render this image of historical interest only, achieving the commitments is becoming even more difficult due to the fundamental drivers of water supply and demand.

Demand for water is steadily increasing with population growth and increasing demand for water-hungry foods and energy and water for sanitation and other essentials of life. However water supply is becoming less predictable as the result of climate change.

In Australia we are used to extreme variability in our land of droughts and flooding rains, that is the theme for this session. We have sophisticated policies and practices for managing that – more on this later.

But in many countries, climate extremes and unpredictability are new phenomena. Many countries have no policies for achieving water use efficiency in agriculture, which consumes seventy percent of the world's freshwater. Many governments are grappling now for the first time with the fundamentals of how to allocate scarce water sustainably and equitably.

Furthermore, the world's freshwater resources are being increasingly polluted in many countries. Poor irrigation and drainage practices are causing salinisation of freshwater. Sea level rise is having the same effect in deltas and on atolls. Overuse of groundwater is causing arsenic and other naturally occurring heavy metals to get into drinking water. In many places, including Australia, excessive nutrients are getting into rivers as farmers use more fertiliser to extract more food from depleted soils. Many countries do not effectively regulate industrial pollution of rivers and lakes, and human waste from many fast growing cities is inadequately treated. As a result even countries with plentiful freshwater can have scarcity of usable and safe water.

There is also economic scarcity where countries cannot afford the infrastructure necessary to store, clean and distribute water to where it is needed.

What is taken for granted in Australia and most developed countries, of being able routinely to drink water out of a tap, is in fact a miracle of human inventiveness and creativity, and of successful governance and political process. There will be thousands of technologies and policies embodied in a cup of drinkable water.

The poorest developing countries need to be able to simulate all this in their own way, if they are also to get these results and achieve the great goals to which they committed in 2015.

To achieve safe water for the people, first and foremost governments need to be able to manage water supply and demand.

Water users need to value the water they use, and ideally pay for it with help from transfer payment if necessary. Governments need to work out how to finance new infrastructure to store, clean and distribute water, and also how to protect and use nature's own water provisioning and cleaning services.

Governments need to work out how to peacefully allocate water equitably between within the society to different uses. Efforts to reset the balance between competing demands, say between household, cultural, recreational, environmental and economic uses, can often face furious political resistance.

It is helpful that the current low interest rate environment makes it cheaper than ever to invest in long lived assets such as water infrastructure and services, and there is enough money in the world's savings pool and available technologies to do this. Australia alone has enough savings in superannuation funds to finance the US 1.7 trillion dollars needed to achieve the whole world's drinking water and sanitation objectives.

However unlocking this will require many governments to improve their domestic policies to reduce the risk involved in investing in the water sector, to the point that superannuation and other private investment will be able to contribute.

It is encouraging that the recently re-elected Indian Government has now committed the equivalent of over fifty billion US dollars to get piped drinkable water to every household India in the next five years.

This follows their successful mission to install one hundred million new toilets in rural India and eradicate open defecation practices in the past five years through a broad based social movement. This achievement has been claimed by the World Health Organisation to have probably already saved 300,000 lives and provided an additional fourteen million healthy years of life to Indian society. It shows what can be done when governments make a full blooded political and financial commitment and have the support of community leaders.

And there are many other examples of progress. I heard recently that Cape Verde, the small, poor, dry and highly vulnerable island country off the west coast of Africa, has successfully

introduced full water pricing at least for commercial uses, to incentivise better water use efficiency. This should help it manage the supply and demand balance into the future.

Even in rich countries it is a challenge to achieve the SDG 6 outcomes in isolated and remote communities, and to get the water allocation balance right in times of scarcity. There are still places in Australia without reliable access to clean and safe drinking water. There are not so remote towns in south eastern Australia that have run out of water in the current drought and doubtless these same communities will be enduring raging floodwaters when this or the next drought ends.

All this should remind us of the power of mother nature, and the limits of our own, even in the Anthropocene age. The current drought is very serious in reducing rainfall and inflows in the Murray-Darling Basin to unprecedented lows in some areas.

The last time we were in a situation like this was just eleven years ago in the Millennium Drought. Governments had to undertake intensive contingency planning against the risk of the drought continuing indefinitely. Then as now no-one knew when and how it would end. You can be sure that planning is going on right now.

You would not think so if you are reliant on the media for information, but Australia has a very strong international reputation for the quality of our water planning and management

In Australia, water management is a state government responsibility, except in the Murray-Darling Basin referred the states referred some of their constitutional powers so that Commonwealth institutions now regulate how much water the states can allow to be taken for consumptive purposes through the Basin Plan and its 'Sustainable Diversion Limits' for every Basin catchment.

Many countries come here to learn about how we, as the driest inhabited continent, endeavour to balance our supply of and demand for water.

All Australian State Governments have agreed to observe similar water management principles through the National Water Initiative, which was agreed by the Council of Australian Governments during the last great drought, in 2004. We also have a nationally agreed National Water Quality Management Strategy providing State and local governments with standards and guidance for managing water quality risk.

In most water catchments, the amount of water released for irrigation is a share of the total available water each year and a water market among the commercial water users then determines what is grown in each catchment. Under this system, in very dry years thirsty annual crops like rice and cotton are not grown, freeing up enough water for long lived orchards and other tree and vine crops. When there is enough water to grow annual crops these industries respond quickly, with maximum efficiency and productivity.

To achieve more assurance about the sustainability of the productive capacity of the Murray-Darling Basin environment, bipartisan agreement was reached in 2012 to re-allocate around twenty percent of available water from consumptive uses and back to the environment: a highly contested reform to this day but one now largely peacefully achieved to the long term benefit of Basin water users and all Australians.

In Australia, water utilities, usually operating as government owned commercial entities, provide clean reliable drinking water to the vast majority of the population, with water users accustomed to paying the full costs of this.

In Australia, the most extreme droughts, as we are experiencing now, and floods, are managed without causing massive outmigration or loss of life that occurs in many other countries.

But the Australian story is complex, and of course contested, as it should be because Australians care a lot about our water.

When the whole world cares like Australians do, there is a fighting chance of winning the political momentum needed to achieve access to safe water and sanitation for all.

My intent in this talk is to reveal the water management challenge facing the world and also the great opportunity governments and societies have, through better water resource management to improve lives for billions, and in doing so to support your endeavours to improve human health.

In return I ask of you as public health professionals to care about how water and sanitation are managed, and get behind any efforts to improve water and sanitation outcomes in the countries with the most do to achieve their Agenda 2030 commitments.

Let's work towards a future where all countries have in place policies that allow for the sustainable use of their water resources for the benefit of all their peoples now and into the future.

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