

Solving Asia's water woes by 2030

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The Straits Times, 9 July 2016

The United Nations was founded in 1945. Last year, on the occasion of its 70th anniversary, the leaders of the world met at its headquarters in New York. On Sept 25, 2015, the UN General Assembly unanimously adopted a visionary agenda to transform the world. The agenda is called "The 2030 Agenda for Sustainable Development". It contains 17 sustainable development goals and 169 targets, which are to be achieved by the year 2030.

In goal No. 6, the aspiration is to achieve universal and equitable access to safe and affordable drinking water by 2030. Can Asia achieve this goal?

In this essay, I will begin with an overview of Asia's water challenges, discuss the most important things that Asia should do in order to achieve the goal and conclude with some thoughts on Singapore's experiences.

Asia's Water Challenges

The first of Asia's water challenges is caused by the growing gap between urbanisation and the provision of water and sanitation services to the urban population.

It is estimated that by 2050, 60 per cent of Asians will live in cities. At present, about 269 million Asians do not have access to safe drinking water. To reduce this number to zero by 2030 is a formidable task in view of the exponential increase in Asia's urban population and the inadequate urban infrastructure in many Asian countries and cities.

Another serious problem in Asia is that about 80 per cent of waste water is being discharged into rivers and the sea with little or no treatment. In Vietnam, only 4 per cent of waste water is treated. In India, it is 9 per cent, in the Philippines, 10 per cent, and 14 per cent in Indonesia. The consequence is that the untreated waste water will contaminate the water ecosystem. The UN's target is to reduce by half the percentage of untreated water by 2030.

The second challenge is that Asia is depleting its groundwater at an unsustainable rate. According to the Asian Development Bank, seven of the 15 biggest extractors of groundwater in the world are in Asia. India, China and Pakistan account for 86 per cent of the total groundwater extraction in Asia. If the current trend continues, groundwater will eventually become depleted. This will have disastrous consequences for food production as well as for human consumption.

The third challenge is Asia's vulnerability to floods. In 2014 and 2015, Indonesia, Malaysia, Southern Thailand and Sri Lanka were afflicted by serious floods caused by the north-east monsoon. Millions of people were displaced. Another negative consequence of the floods was that they contaminated the potable water. The contaminated water, in turn, caused water-borne diseases. More than 340,600 children under five die annually from diarrhoeal diseases due to poor sanitation, poor hygiene or unsafe drinking water.

Another challenge is the impact of global warming and climate change. Changes in temperature, evaporation and precipitation will have an impact on the region's water resources, such as on river flows. Climate change has also increased the frequency of both

floods and drought. Additionally, many of Asia's cities and countries are low-lying and will be adversely affected by the expected rise of sea levels. Climate change will, therefore, pose a new challenge to Asia's water problem.

What Must Asia Do?

The most important thing is, surprisingly, not about money or technology. It is about governance. The reason is this. What is lacking in Asia is not money or technology, it is political will and good governance. If the leaders of Asia were to decide that by 2030 no one in their respective countries will lack access to clean and affordable drinking water, and if they would appoint competent and honest people to take charge, the problem will be solved. The present situation is that no such political will exists in many countries and their water utilities or authorities are often both incompetent and corrupt. The bottom line is this: If Phnom Penh in Cambodia can solve its water problem, there is no reason why other Asian cities and countries can't do the same.

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The second necessity is for Asian governments, both at the national and local levels, to appoint a minister or a senior official to be in charge of water. In Singapore, we have a minister in charge of the environment and water. If this is not feasible, then the second-best option is to have a well-coordinated, multi-agency approach to water. Asian leaders ought to put the provision of safe and affordable drinking water to all their citizens as a top national priority. They should then develop an appropriate strategy and execute it consistently and effectively. One lesson that the rest of Asia can learn from the experiences of Japan, South Korea and Singapore is that a good water policy can be an engine of economic growth and national prosperity.

The third requirement is to mould the public attitude towards water by, among other things, getting the price of water right. Although the UN has recognised as a human right a person's access to clean water, it does not mean that water should be provided for free. Water is a precious resource and, if it is provided for free, the consumers will have an indifferent and wasteful attitude towards it. It is, therefore, essential to charge the consumers for the price of water. The price of water should not be subsidised by the taxpayers. Instead, financial assistance can be given to needy families and individuals to help them pay for their water.

The fourth action is to promote efficiency in the use of water. This applies to domestic consumption, industrial consumption and agricultural consumption. The largest consumer of freshwater in the world is agriculture. The current system of irrigation is centuries old and inefficient. The drip irrigation is much more efficient. We need a revolutionary breakthrough in the use of water in agriculture. In many cities, a lot of water is lost through leakage or theft. To reduce the leakage, old infrastructure should be replaced.

Theft of water can be eliminated by strict law enforcement. Industries can increase their water efficiency by recycling their waste water. Seawater can be used for process cooling where it is available. In cities and places such as Singapore and California, the recycling of water may be a viable option. There are many ways in which water can be used more efficiently.

The fifth requirement is to embrace integrated water resources management (IWRM). What does this mean? It means breaking out of our silos and taking a holistic, systemwide approach to water.

In the case of Singapore, it means protecting our water ecosystem, using waste water as a resource, and maximising the use of unconventional resources, such as recycled water, desalinated water and groundwater. By implementing IWRM, Singapore has closed the water loop.

The sixth and final requirement is finance, technology and innovation. Financing for water-related projects is available from the World Bank, the Asian Development Bank and the new Asian Infrastructure Investment Bank. Private capital is also available because water is a viable industry. There are many new technologies and innovations which will enable Asian countries and cities to reduce the cost of water, to reduce the cost of waste-water treatment and the costs of desalination and the recycling of water.

Sharing Singapore's Experience

Singapore is a small, highly urbanised and water-scarce city. It has a population of over five million and a large manufacturing economy. Water security is, therefore, a strategic imperative for Singapore.

Faced with this dire situation, Singapore has been successful in improving the supply of water, both in quantity and efficiency, on the one hand, and, moderating the demand for water, on the other.

The water leakage in Singapore is 5 per cent. The demand for water has been gradually reduced. In Singapore in 2003, the per capita consumption was 165 litres. This fell to 151 litres by 2015. Our target is to reduce it further to 140 litres by 2030. Our long-term ambition is to emulate cities such as Hamburg in Germany, where the annual per capita consumption of water is as low as 110 litres.

On the supply side, the introduction of Newater in 2003 was a game changer. At present, Singapore's Newater plants can meet 30 per cent of the nation's needs. This will go up to 55 per cent by 2060. Complemented by desalinated water and rainfall, Singapore's water future looks reasonably secure.

Conclusion

I support the UN's goal that by 2030 every person will have access to safe and affordable drinking water. At present, about 269 million Asians do not have such access. To reduce this number to zero in 14 years is a formidable task. I believe, however, that with political will, good governance and sound water policy, the goal can be achieved.

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