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Singapore's record on water and built environment provides a lesson for Asia

The tiny island nation proves that good environmental policies – and public-private partnerships – are also good for business

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Singapore may be a small island-state, but it is providing a shining example in sustainability for other Asian megacities to follow.
Photograph: How Hwee Young/EPA

In Southeast Asia, there is an island called Sumatra. On Sumatra there is an extinct volcano. On that extinct volcano, there is a small lake, Lake Toba. In the middle of Lake Toba, there is a tiny island. This tiny island in a volcanic lake is, however, the same size as Singapore.

David Bellamy, the famous British environmentalist, has said that tiny Singapore has more tree species than the continental 48 states of the US. Amitav Ghosh, a famous Indian novelist, echoed this observation: "What is remarkable about Singapore is, despite all the buildings and developments, it remains so green."

This is not a result of accident or good fortune. It is the result of a comprehensive matrix of environmental policies that reinforce each other, providing a model of environmental management that is worth studying in detail.

The world also needs to study it urgently. In 2008, for the first time in human history, more people lived in cities than in rural areas. Urbanisation is accelerating. By 2050, it is estimated that nearly 70% of the world will be urban residents. Of the 25 most densely populated cities in the world, 17 are in Asia, and by 2025, 21 of the world's 37 megacities will be in Asia.

Sadly, few of these cities are managing their environments well. The lessons from Singapore are clearly relevant to Asian megacities. Ghosh says: "A lot of people I interviewed [in 1997] told me, 30 years ago, Singapore was just like Calcutta or Karachi. The transformation of this city in such a short time is a truly stunning thing."

Just look at the water dimension. Projections from the 2030 Water Resources Group suggest that the

global gap between water demand and supply could be as large as 40% by 2030.

While the world is running out water, Singapore – which is one of the most densely populated countries in the world – is moving towards water self-sufficiency. Good public policies – including those that preserve water catchment areas, and develop advanced desalination plants as well as plants that utilise modern membrane technology – have led to this success story. This is why the Singapore Public Utilities Board (PUB) won the Stockholm Industry Water Award in 2007.

Private sector dynamism meets public needs

Significantly, many of these projects are provided through public-private partnerships between the PUB and private Singaporean companies, such as Keppel Engineering and SingSpring. The dynamism and innovation of the private sector has been harnessed to help meet public needs.

Singapore's success in environmental management is also influencing its neighbors in Southeast Asia. Kuala Lumpur also began a greening program after watching Singapore's success. The late distinguished former Indonesian foreign minister, Ali Alatas, once told me privately that Jakarta's urban planners used to despair about improving their city. However, after studying how Singapore went from third world to first world in one lifetime, they began to believe that they too could succeed.

And there are other remarkable Southeast Asian success stories. Cambodia is one of the poorest countries in the world, and has experienced the worst genocide of recent times. Yet its capital city, Phnom Penh, has a water authority that expanded the city's water output by 600% in just 10 years. It also manages its water supply better than most British water authorities.

Given Singapore's environmental track record, it is appropriate that it plays host to two global, and increasingly influential, conferences that bring together major stakeholders from the public, private and non-profit sectors: the biennial Singapore International Water Week and World Cities Summit. These two conferences signify the international community's recognition that Singapore's successes in managing the scarcity of space and resources will help many other cities which will experience similar challenges in coming decades, if they are not already experiencing them now.

Eco-city for the future

Singapore is also sharing its experience directly with other cities. The Sino-Singapore Tianjin Eco-city, due for completion in 2020, is one such example. Together, the Singapore and Chinese governments are trying to build a sustainable city for the future, which will serve as a laboratory for the green technologies and public policies that we will need in the 21st century and beyond. Already, more than 600 companies have moved to the Tianjin Eco-city and 4,000 homes have been purchased.

Singapore has also discovered that good environmental policies are good for business. As a result, Singapore is rapidly becoming a hub for the development and manufacturing of sustainable energy sources. Large international firms that specialise in renewable energy – such as Denmark's Vestas Wind Systems and Norway's Renewable Energy Corporation (REC) – have set up shop here. The Solar Energy Research Institute of Singapore (SERIS) is home to 160 leading researchers from across the globe, thanks in large part to a S\$130m (£66.1m) government grant, and it collaborates directly with multinational solar companies such as Trina Solar and REC in research and development, as well as personnel training.

These industries are becoming increasingly important to Singapore's economy: by 2015, the cleantech sector is expected to contribute S\$3.4bn (£1.7bn) to Singapore's GDP and employ 18,000 people.

In a world that is devoid of good news on the environmental front, Singapore's success provides a lot of hope to many. There is one critical statistic that explains the metaphysical significance of Singapore's success. If the world's seven billion people were to live in a single city as densely populated as Singapore, the entire world would only need an area the combined size of Texas, Oklahoma and Louisiana to live in.

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