

**INTERNATIONAL FEDERATION OF
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**MR.
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Kallang River transformation at Bishan- Ang Mo Kio Park
Image courtesy Ramboll, Singapore

Mr Khoo Teng Chye is currently the Executive Director for the Centre for Liveable Cities, Ministry of National Development, Singapore. He was previously the Chief Executive of Singapore's National Water Agency, the PUB, from 2003 to 2011, as well as the Chief Executive and Chief Planner of the country's national planning agency, the Urban Redevelopment Authority (URA) from 1992 to 1996 where he spent the better part of his career since 1976.

At URA, Mr Khoo was part of the team that led the long term planning efforts that have transformed Singapore from a Third World, overcrowded city of less than 2 million, to a clean and green city in a garden of 5.6 million people that Singapore is today.

Singapore's reputation as a green city comes from the fact that its greenery is not just about planting millions of trees. We have also deliberately infused the greenery into the urban matrix through the long term strategic plan known as the Concept Plan – which reserves land for a hierarchy of national, regional, towns and precinct parks so that people all live within walking distance of parks and greenery. The greenery is also made a part of urban planning and building standards. Singapore's green cover as seen from a satellite steadily increased from less than 30% before the 80s to nearly 50% even as its population grew and urbanisation intensified.

Singapore is an island that receives much rainfall, but yet suffers from a lack of indigenous water as we do not have enough land to collect and store water in its reservoirs. Over the years, PUB has developed a water strategy that has seen the creation of 17 urban reservoirs, as well as recycling and desalination to ensure Singapore is sustainable in water resources even as it continues to grow.

Under Mr Khoo's leadership, PUB has also made water enhance the dense urban environment under the Active, Beautiful and Clean Waters (ABC Waters) Programme where the vision is to transform Singapore's 17 reservoirs, 32 rivers and 8,000 km of stormwater drains and canals from ugly concrete structures to beautiful lakes, streams and rivers as part of the urbanscape and make them accessible to the community.

The ABC Waters strategy is a multi-disciplinary and multi-stakeholder approach that cuts across different professions (engineers, architects, landscape architects, ecologists), agencies, companies and the community. The programme started as pilot projects under the URA's Waterbodies Design Panel in the late 80s when projects like Sungei Api Api where a mangrove-lined river was created instead of building a concrete canal next to a dense, high rise housing community. At the PUB, Mr Khoo initiated the ABC Waters Masterplan which is a 20-year plan to gradually make a reality the "Blue Map" of Singapore.

Since the programme was launched in 2006, more than 50 projects like the Bishan-Ang Mo Kio park where a 2.7 km concrete canal was transformed into a meandering stream in a park, and the Punggol Waterway, have been completed and are popular places which attract many users. To ensure the sustainability of the programme, research and test bedding is continuously carried out, workshops are conducted in the universities and design guidelines were established for the industry.

At the Centre for Liveable Cities which Mr Khoo now heads, CLC works with its partners and stakeholder agencies to make Singapore a City in Nature, building on its success as a City in a Garden and a City of Gardens and Water. The green and blue strategy, coupled with a deep understanding of how the city can be part of the ecological system that links the city's various nature reserves, parks and park connectors, with judicious introduction of new species like the hornbill and the otter, will uniquely make Singapore, although a highly dense city, into a "wild" city that is in harmony with nature. At only 720km², with a population of over 5.6 million people, Singapore is one of the few high-density cities in the world that has been able to achieve high liveability standards. Singapore successfully achieved this balance of density and liveability through good governance, and an integrated approach to planning and development. These key principles from Singapore's development experience have been distilled into the Singapore Liveability Framework.



Mr Khoo gave a tour explaining about the Kallang River transformation at Bishan-Ang Mo Kio Park
Image courtesy Centre for Liveable Cities, Singapore



Mr Khoo shared with the participants from the 13th Executive Development & Growth Exchange (EDGE) Programme on the urban systems approach to creating a liveable and sustainable Singapore.
Image courtesy Centre for Liveable Cities, Singapore