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Headline: How Singapore keeps it cool with urban greening and nature-based solutions

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Public sector speakers at WWF Singapore's Earth Summit highlighted how urban greening and NbS have become central to combating climate change.



National Parks Board (NParks)'s Chief Executive Officer, Hwang Yu Ning, said that as the temperature rises, it has become increasingly important to use "nature as a way to complement the other types of infrastructure".

She was speaking at the World Wide Fund Singapore's (WWF) Earth Summit on May 23, which sought to emphasise the role that nature plays in mitigating and adapting to climate change.

Her sentiments were echoed by Southeast Asia Climate and Nature-based Solutions (SCeNe) Coalition's Partnerships Lead for nature-based Solutions (NbS), Edwin Seah.

SCeNe Coalition is a partnership between non-governmental organisations which aims to support the delivery of, and investment in high-quality, triple-benefit NbS in the region.

"Southeast Asia holds a rich treasure trove of biodiversity - 15 per cent of the world's tropical forest and 35 per cent of coral reefs are found in this part of the world," he said.

According to Seah, if its potential is unlocked, nature can realise a third of the emission reductions needed to limit global warming and keep the climate within safe boundaries.

He emphasised the advantage of NbS both at the corporate as well as the governmental level.

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Urban NbS

Urban greening has been the original NbS used in Singapore, providing shade and cooling the environment among other benefits, said Hwang.

This process of increasing the overall number of green spaces and vegetation in urban areas can be seen in the Singapore's abundant rooftop greenery and many urban parks.

The branding of Singapore as a Garden city was hence reflected in its use of nature incorporated into Singapore's infrastructure and engineering.

The NParks CEO shared that utilising NbS also fosters increased community engagement. For instance, tree planting in the OneMillionTrees movement, or mangrove planting, have allowed for greater community engagement while tackling environmental concerns.

"Over the years, we've really incorporated a lot of greening on the buildings to complement the additional greening of the parks and the roadside greening," Hwang added, alluding to Singapore's use of an urbanised approach to NbS.

The race to cool Singapore

In recent years, Singapore has been getting increasingly hot. According to a report by CNA, days where temperatures exceed 35-degree Celsius would likely double by the end of the century.

Rising temperatures put Singaporeans at a higher risk of heat stress, and might even negatively affect men's fertility, according to a study conducted by the National University of Singapore (NUS).

Yet, despite the many trees in Singapore to cool the environment, Singapore Management University (SMU)'s Professor Emeritus of Finance, Annie Koh, noted that the temperature has continued to rise.

"Shade matters, and more importantly, it's not just the shade of street trees, but the scale of the green spaces that we have is critical," emphasised the United Nations (UN)'s Co-Chair of Working Group II of Intergovernmental Panel on Climate Change (IPCC) Seventh Assessment Cycle, Professor Winston Chow.

Prof Chow illustrated his point by comparing the cooling effect of a small area equivalent to six football fields with that of a much larger park, such as Bishan-Ang Mo Kio Park, which is 10 times bigger.

He highlighted that the sheer scale of the park cooled it by more than two degrees and also cooled major residential areas in Ang Mo Kio and Bishan.

The Bishan-Ang Mo Kio Park upgrade was part of the Active, Beautiful, Clean Waters (ABC Waters) Program by Singapore's Public Utilities Board (PUB) to improve the park's capacity as a drainage and water supply channel, and its function as a space for community bonding and recreation.

In his keynote address, Prof Chow stressed that while NbS does a good job of protecting Singapore from climate change, its effectiveness would wane as the temperature rises.

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“We really need to be on top of scaling the action,” he continued, alluding to how there was an urgent need to address the global rise in temperature.

Beyond the Environment

Apart from environmental benefits, NbS have also created spaces for wellness and mental health, added Hwang.

This manifested in the form of social prescribing, such as walks in the park and therapeutic gardening to improve overall mental and physical well-being.

Adding to this, Prof Chow noted that it was not possible to tackle climate change in isolation. Instead, implementing NbS must be part of bigger picture and goal which involves the wider community and partnership between different stakeholders.

“There needs to be courage and leadership. There needs to be fortitude in what needs to be done to deal with the climate crisis,” Prof Chow said.