

Did you know?

In rapidly urbanizing cities, water is no longer just a utility to be managed;

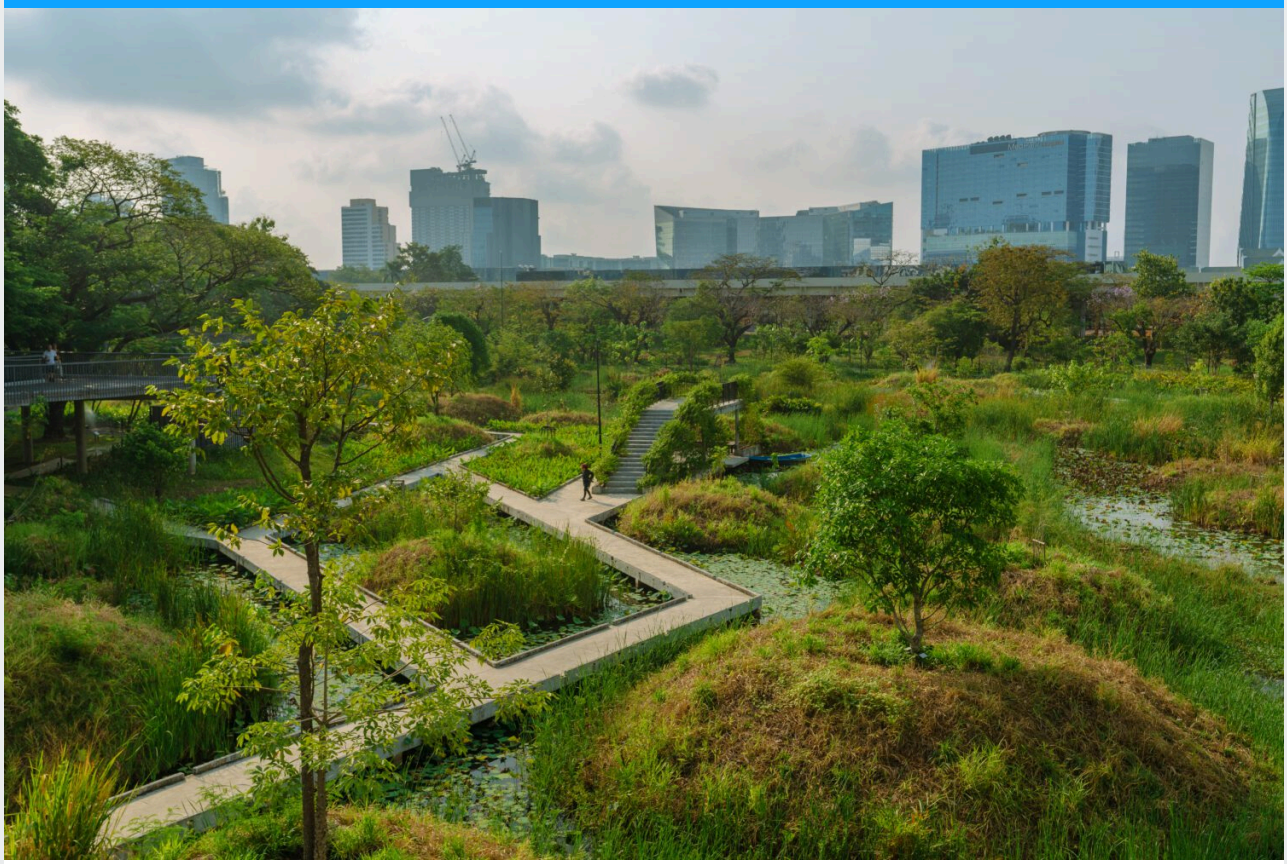
it is a volatile force that must be thoughtfully integrated into the very fabric of our streets, parks, and public life.

Across the WHO South-East Asia Region, the consequences of failing to live well with water are increasingly stark. In November 2025, intense monsoon rains devastated southern Thailand, triggering severe flooding across 12 provinces. At least 276 people were killed, more than 5,000 injured, and over 219,000 residents were displaced. Nearly a year earlier, in December 2024, Cyclone Fengal claimed at least 19 lives in India and Sri Lanka, causing widespread flooding in Tamil Nadu and the Puducherry region. Beyond the tragic human toll, these disasters strained national economies, damaged critical infrastructure, and tested emergency response systems.

On this **World Water Day**, the challenge is no longer whether cities will face water extremes—but whether they are designed to absorb, adapt, and recover from them.

A quiet but powerful idea is gaining ground: the **sponge park**. Instead of forcing rainwater into drains and canals as quickly as possible, sponge parks are designed to absorb, slow, store, and reuse water, while doubling as vibrant public spaces. Two outstanding examples—**Benjakitti Park in Bangkok, Thailand** and **Dr M S Swaminathan Wetland Eco Park in Chennai, India**—demonstrate how nature-based solutions can be both climate-smart and people-centred.

Case Study: Bangkok, Thailand



Source: Greener Bangkok

Once a former tobacco factory site, Benjakitti Park has been transformed into one of Bangkok's most significant nature-based water infrastructures. Developed under the concept of "Water + Forest," the park was designed not only to increase green space, but to function as an **urban reservoir** embedded within the city's low-lying delta geography.

Bangkok's high groundwater level means that digging just one metre would reach water. Rather than storing groundwater, the design increases **surface retention capacity**, reshaping the land into a sponge that absorbs and slows runoff during heavy rainfall.



Overview of Benjakitti Park before and after construction.

Urban Reservoir in the Heart of the City

The park operates as a large-scale retention landscape. Through cut-and-fill earthworks inspired by traditional Thai agricultural ridge-and-ditch systems, the site was sculpted into interconnected basins, mounds, and shallow wetlands.

At full capacity, the system can store **128,000 cubic metres of water**. Water levels can be lowered in advance of major storms, creating additional storage space when needed. In severe flood conditions, the park is intentionally allowed to receive overflow water from surrounding areas, helping reduce pressure on nearby neighbourhoods.



Cut-and-fill earthworks constructed in Benjakitti Park.

Approximately **95% of the park's surface** is designed as a permeable or retention landscape during heavy rainfall. Soil, rather than concrete embankments, acts as the primary storage medium—absorbing and gradually releasing water back into the ground.

Flooding here is not a design flaw. It is part of the system.

Resilience Without Sacrificing Public Life

Benjakitti Park was designed to remain usable even during flood events. While ground-level areas may temporarily retain water, elevated pathways and the skywalk remain accessible, maintaining urban connectivity.

The multi-level circulation system—ground paths, boardwalks, and skywalk—ensures that public access continues even when water levels rise. In this way, the park demonstrates how flood infrastructure can be designed to support daily life through the storms they weather.

Benjakitti Park shows that in flood-prone cities, green space is not decorative—it is critical water infrastructure. *Click to continue reading.*



Source: Greener Bangkok

Case Study: Chennai, India



Chennai's first wetland sponge park off Mount Poonamallee High Road, Porur. Source: The Hindu

In March 2025, Chennai opened the **Dr. M.S. Swaminathan Wetland Eco Park** in Porur—its first wetland sponge park.

Built on a 16.6-acre site that had deteriorated into a dumping ground and asphalt parking lot, the project restored the historic Chettiyar Agaram Lake into a functioning blue-green infrastructure. Through desilting and ecological rehabilitation, the lake now stores up to **30 million litres of water during the monsoon**, strengthening both flood control and groundwater recharge.

For a coastal megacity of over 12 million residents facing intensifying floods, water scarcity, and extreme heat, the transformation represents a strategic shift: from draining water away to **absorbing and managing it locally.**



A garbage dump before the sponge park was constructed. Source: Sponge Collaborative

An Urban Reservoir for Flood and Drought

The sponge park reduces flood impacts by collecting and filtering up to **90% of the stormwater generated by the adjacent university campus** before it reaches public drainage systems.

Instead of accelerating runoff, the park slows, stores, and treats stormwater through a restored wetland system. During heavy rainfall, it functions as a temporary holding basin, delaying discharge and protecting surrounding infrastructure. Controlled outlet gates regulate overflow and allow pre-monsoon water-level management.

By deepening the lake by approximately five feet, designers significantly increased storage capacity while improving shallow aquifer recharge

Biodiversity and Urban Cooling

The restored wetland supports over **85 species of native plants and wetland vegetation** and provides habitat for migratory birds along the Central Asian Flyway.

In addition to flood mitigation, increased canopy cover and greenery help mitigate urban heat—an increasingly urgent concern in Chennai's warming climate.



The large retention pond is already boosting biodiversity, with a growing number of bird species spotted in the wetland. Source: ICLEI South Asia

Infrastructure That Welcomes People

Unlike purely technical retention ponds, the Porur sponge park was designed as a multi-functional public space. Features include:

- A **600-metre boardwalk** for wetland access and bird viewing
- Play areas, sports courts, seating zones, and an outdoor gym
- Educational signage explaining nature-based water management

Boardwalks are elevated to allow water flow beneath them during monsoon periods, ensuring ecological continuity. Even during heavy rains, the park safely stores water while remaining usable for much of the year.

While one sponge park alone cannot solve citywide flooding, Porur offers a replicable model. It shows how restoring degraded wetlands can reduce flood risk, recharge groundwater, strengthen biodiversity, mitigate heat, and provide inclusive public space—all at once. Scaling such blue-green interventions across cities will be critical as climate risks intensify. *Click to continue reading.*



Porur's first wetland park, with a 600m boardwalk, pollinator garden, basketball court, seating areas, & landscaped channels, was developed by CMDA & Sponge Collaborative on 16.63 acres. Source: r/Chennai

Reflections: Designing Cities That Live With Water

Bangkok and Chennai may differ in geography and scale, but both cities arrive at the same insight: resilience cannot rely on concrete alone.

Traditional grey infrastructure pushes water away as quickly as possible. Sponge parks are designed to receive it—safely and deliberately. They prove that parks can do more than beautify a city. They can store floodwater, clean it, recharge groundwater, reduce heat, and still remain welcoming public spaces.

By restoring wetlands and reshaping land to absorb rain, these cities are rebuilding natural systems that urban development once erased.

As floods and droughts intensify, the question is no longer whether nature-based solutions are optional. Cities that make space for water are the ones building safer, healthier, and more resilient futures.

Editor’s Pick



Building Urban Health Resilience Amid Climate Change

As climate risks intensify in urban areas, cities must strengthen health systems to prepare for floods, heatwaves, and emerging threats. Explore key insights — from future-proofing hospitals and adopting all-hazards planning to tackling misinformation and securing dedicated financing — and what cities can do now to build resilience.

Read more

Stay tuned for more inspiring stories from our healthy cities network in our next update!

Share with us your city's best practices!

Email Us

WHO South-East Asia office and Regional Laboratory on Urban Governance for Health and Well-being are pleased to invite you to join South-East Asia Region Healthy Cities Network.

More information and details here

Recommended Resources

Selected resources supporting this issue’s theme

World Water Day 2026 Factsheet

Further Reading & References

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