

# When it comes to water security, Hong Kong should suck it up

In the face of rapid urbanisation and more extreme weather conditions, a city would do well to ensure its storm water does not lead to flooding and – even better – that its rainfall can be channelled towards more productive uses than into gutters and drains. Recognising this, the Chinese government is making a big push to develop so-called “sponge cities”: it has identified 16 cities to take part in a pilot project to promote self-sufficiency in water management and resilience against extreme weather events.

Hong Kong, too, with its densely built city centres, should consider adopting these principles of water management.

[\*\*\*Climate change could see half a reservoir of Hong Kong's potable water evaporate per year, green group says\*\*\*](#)

A sponge city is defined as a city which can hold, clean and drain water in a natural way, using an ecological approach. Though the term is new, the concept isn't, as the principles that support it are widely used in urban design and planning. “Low impact design” in the US, “water-sensitive urban design” in Australia and “sustainable urban drainage” in the UK all aim to achieve similar purposes. If successful, they help to maintain the balance of the natural water cycle.

Urban development has turned our forests and fields into concrete buildings and paved roads with reduced water absorption abilities. This increases surface run-off and raises the risks of flooding.

To counteract such tendencies, a city can adopt designs that preserve the natural habits of the development site – such as by adding green infrastructure (green roofs and constructed wetland), building bio-retention systems (rain gardens) and rainwater tanks, and using permeable paving.

A sponge city can reduce urban potable water demand by maximising the reuse of rainwater, and restore the natural water cycle by reducing surface run-off and increasing natural groundwater storage. Not only that, a sponge city can also channel storm water for multiple uses, such as for landscaping in open public space and for wildlife habitats.

[\*\*\*World Water Day: why Hong Kong should not be complacent about this most vital of resources\*\*\*](#)

Given how precious Hong Kong's water resources are, we should adopt the design principles of a sponge city for our water management, especially in new town developments.

Hong Kong has virtually no groundwater resource and very irregular rainfall patterns, so every drop of rain should be retained, whether as soil moisture or in vegetation, or in water catchment areas and creeks. Adopting a sponge city design in Hong Kong will not only restore the natural water cycle, but also enhance water security and add resilience towards climate change.

Water is a vital resource and we should not overlook its true value just because water tariffs are low in Hong Kong.

Vianne Law is China project officer at Friends of the Earth (HK)  
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