# Reduce rate of water flow into drains

IN THE two years that I was away, I was surprised to find Orchard Road, as well as other parts of Singapore, flooding or ponding ("Perfect storm of factors led to flood"; Dec 31).

Certainly, the recent years of dramatic climate change have not left Singapore unscathed.

While the recent floods are a result of changing weather patterns, it may be useful to reflect on the reason why cities tend to flood.

Rainwater falling on natural or planted landscapes tends to be retained by the plants and the soil.

Indeed, if left to nature, rainwater may take several years to find its way to the sea. Rainwater in cities, on the other hand, falls straight off the surfaces of buildings (and pavements and roads) to the drains and thence to the canals or rivers, and to the sea.

This can be translated into the relatively simple principle of capturing the rainwater rather than allowing the water to flow directly into the drains. This rainwater can be used for watering plants, flushing toilets and cleaning floors.

The reason certain places in Singapore flood or pond is not because of the rain that falls in that particular location but because these places lie in low areas where water collects.

If we reduce the amount of water that goes to the drains by collecting it in buildings, thus controlling the rate at which water is discharged into the drains, we can cope with higher rainfall without extensive engineering.

It is a matter of using more buildings to collect the rainwater rather than trying to solve it in one spot.

The solution involves the extensive use of landscape and distributed water-holding tanks. It is not only a sustainable solution in terms of reducing the use of potable water for non-potable uses like watering plants and cleaning, but it also contributes to the greenery in Singapore by encouraging more green landscaping.

It is a relatively simple solution used in many cities around the world – the most famous of which are Potsdamer Platz (in Berlin, Germany) by Atelier Dreiseitl and the recent proposal to protect New York City from the next storm by a group of architects led by the Architecture Research Office.

Perhaps the authorities can consider this among their other possible solutions.

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