
1. Learn from Singapore: Key Take Away from the Island-Nation's Water turnaround Story

Context:

- Depleting water resources and the importance of water management.

Need of Water Management:

- Indian cities have witnessed unprecedented growth over the past few decades that, in turn, have had a drastic impact on water availability.
- Depleting water resources, changing climate and unsustainable water cycle management are exacerbating the water situation
- Many Indian cities have witnessed water exigencies in the form of severe drought and flood.
- **Around 600 million Indians face high to extreme water stress.**
- **By 2030, India's demand for water might be double the Available Supply.**

Valuable Lessons from Singapore's Water Management:

- Singapore harnessed rainwater at the catchment scale, collected through a drainage network and stored in reservoirs before being treated and supplied
- In Singapore, **recycled water is treated using advanced Treatment Technologies** (combination of micro and ultra-filtration followed by reverse osmosis and UV disinfection) to ensure that the recycled water complies with the highest water quality standards, and is fit for human consumption.
- Recycled water has a high demand among industries. In addition, **recycled water is also blended with surface water source to augment water supply during droughts.**
- Singapore utilises desalinated sea water as one of the water sources. Its strong experience in seawater desalination in bringing down per unit cost of water and developing seawater as a sustainable water source.
- **Supported by strong governance**, Singapore's National Water Agency (NWA) judiciously manages the price for its water services, and proactively invests in planning for the future next drop of water.
- This is supported by strong public outreach and stakeholder engagement programmes, to bolster the value of water.
- Singapore has prioritised water demand management to reduce demand supply gap.

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- Water agency mandated water-efficient taps and toilets, **and championed campaigns such as the 10-L challenge—which encourages people to reduce their water use by 10 litres a day**—water conservation week, public visits and engagement, and water visitor centres for people to understand and appreciate the value of water.

Way Forward:

- **Indian cities need to diversify their water resources portfolio.** Few Indian cities have bye-laws that mandate rainwater harvesting. This will need strong legislation and engineering interventions.
- Indian cities often fail to anticipate water-related issues and are left to react to these.
- **With ageing assets, water theft and non-revenue water, our cities cannot continue to dole out water subsidies,** which eventually lead to paucity of funds that could have helped upgrade the water infrastructure.
- **The availability of smart metres, water-efficient devices and infrastructure monitoring devices to plug any leakages will be useful to sustain operations and maintenance.**

Source: The Financial Express

