



Reuse of Treated Wastewater in India: Need, Potential and Constraints

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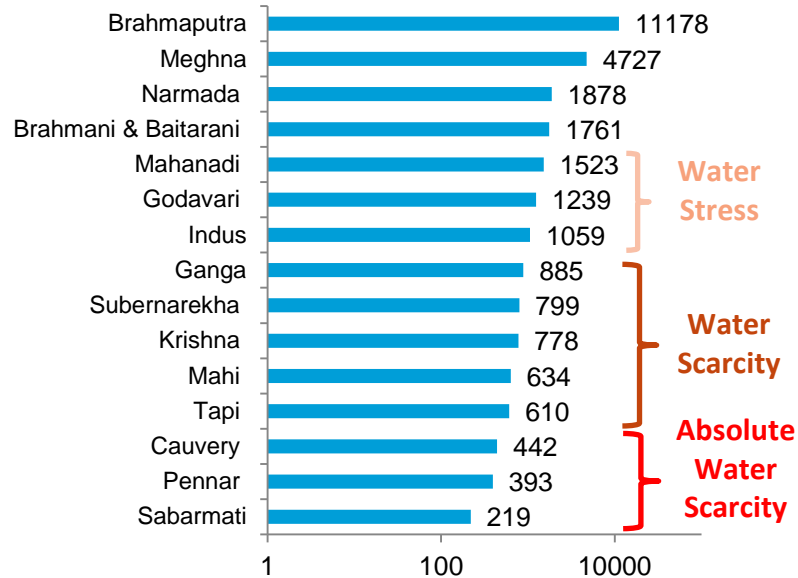
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Water resources availability



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Estimated annual renewable water availability-2025 (in cu m per capita)

- Majority of river basins will experience water stress in near future.
- Need to explore alternatives, reusing treated wastewater is one such option.

National Water Policy 2012

- Suggests recycling and reuse of treated wastewater for water demand management.
- Calls for incentivizing recycling and reuse of treated wastewater through properly planned tariff system.
- Suggests for reuse of urban water effluents from kitchens and bathrooms after primary treatment in flush toilets but ensuring no human contact.
- Specifies that industries in water-scarce areas should return treated effluent of the specified standard to the hydrologic system.



Status of wastewater treatment in India



Wastewater generation (urban):
72,368 million litres per day (MLD)

Installed treatment capacity:
31,841 MLD (44%)

Actual treatment:
20,236 MLD (28%)

States with policies on treated wastewater reuse

State	Agency	Adopted in	Policy/Instrument
Andhra Pradesh	Municipal Administration & Urban Development Department	2017	Policy on Wastewater Reuse & Recycle for Urban Local Bodies
Chhattisgarh	Urban Administration & Development Department	Final	Waste Water Recycle and Reuse Policy
Gujarat	Water Supply Department	2018	Policy for Reuse of Treated Waste Water
Haryana	Government of Haryana	2019	Re-use of Treated Waste Water Policy
J&K	Government of J&K	2017	Policy for Waste Water Reuse
Jharkhand	Urban Development & Housing Department	2017	Jharkhand Waste Water Policy
Karnataka	Urban Development Department	2017	Urban Waste Water Reuse Policy
Madhya Pradesh	Urban Development & Housing Department	2017	State Level Policy for Waste Water Recycle & Reuse and Feacal Sludge Management
Maharashtra	Urban Development Department	2017	Policy for recycling wastewater and reusing treated wastewater
Punjab	Government of Punjab	2017	State Treated Waste Water Policy
Rajasthan	Department of Local Self Government	2016	State Sewerage & Waste Water Policy

Reuse specified for non-potable purposes

Mandatory reuse of treated wastewater for thermal power plants within 50km distance of STP

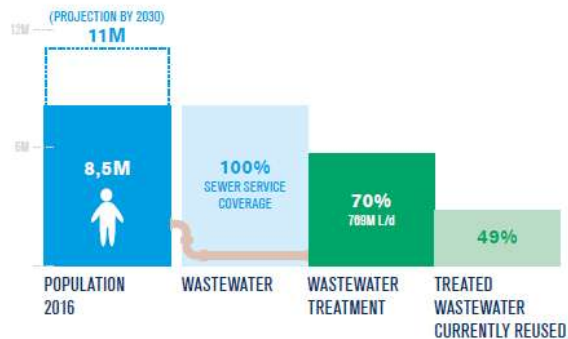
Status of treated wastewater reuse

Atal Mission for Rejuvenation and Urban Transformation (AMRUT 2.0)

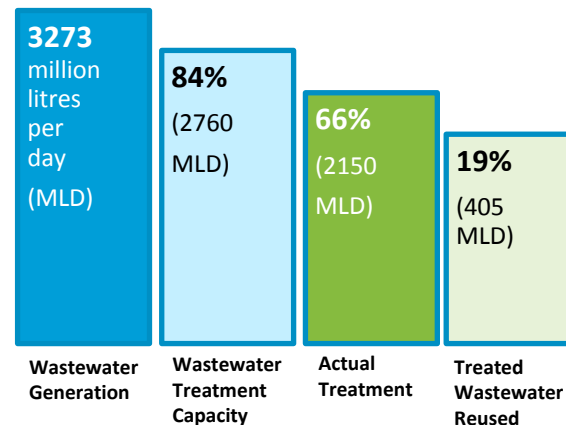
Envisages that 20% of the city water demand and 40% of the total industrial water demand in the state should be met by treated wastewater

No reliable estimates on treated wastewater reuse in India

Chennai 2016

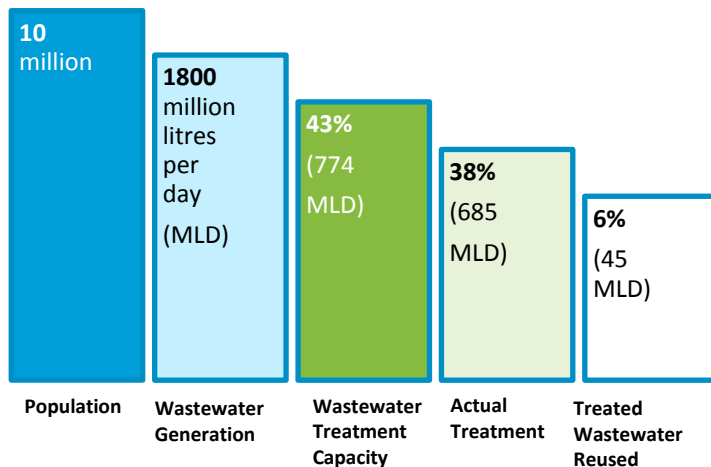


Delhi 2019



Status of treated wastewater reuse (continued)

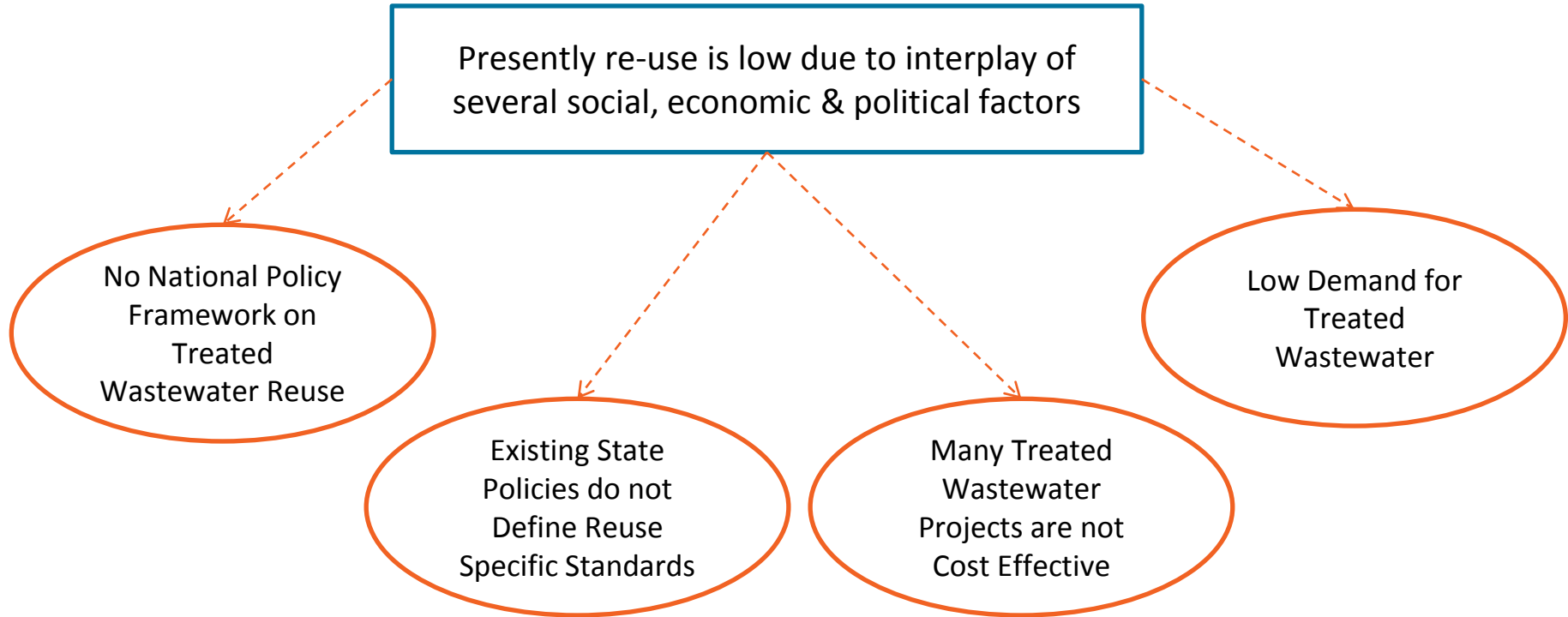
Greater Hyderabad 2020



Rest of the treated wastewater is discharged along with the untreated wastewater in river Musi, a tributary of river Krishna

1200 MLD of partially treated wastewater is used in agriculture downstream of Greater Hyderabad

Main challenges in promotion of treated wastewater reuse



Way forward

- Freshwater needs to be priced adequately, especially in areas with water stress, which can lead to an increase in demand for treated wastewater.
- Some states have treated wastewater reuse policy, but there is a need for National Policy Framework that can guide policy-making in other states.
- An assessment of the implementation status of the existing policies is needed which can guide aspects needing further improvement.
- Wastewater treatment and reuse projects need to be justified by assessing the economic viability rather than doing a simple cost-effectiveness assessment.
- A review of experiences and approaches of other countries which are at an advanced stage in promotion of treated wastewater reuse will be helpful.

Thank you

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For any suggestion or queries, please write to:

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