

# Embedding Circularity in Urban Water Resources Management in Rajasthan

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RTI International (supported by the Water for Women Fund)

India



**WATER  
&  
WASH** 2023  
FUTURES

Achieving SDG6 in a Changing Climate



#WaWF23



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# Key contributors



## PRODUCTION

WFW-DFAT

ADB

GOR

Private sector



## DIRECTION

RTI

International



## STAR CAST

GoR

ADB

Industries

Developers

# Partnership for Recovery- Australia's COVID-19 response



- **Partnerships for Recovery** - Australia's development response will work alongside the full suite of national capabilities to address the challenges of COVID-19 in the Indo-Pacific.
- It focused on strengthening
  - **health security,**
  - **maintaining social stability,** and
  - **stimulating economic recovery,**
- WFW – DFAT worked with its partners to achieve this ambition through the WASH sector

# Rajasthan state

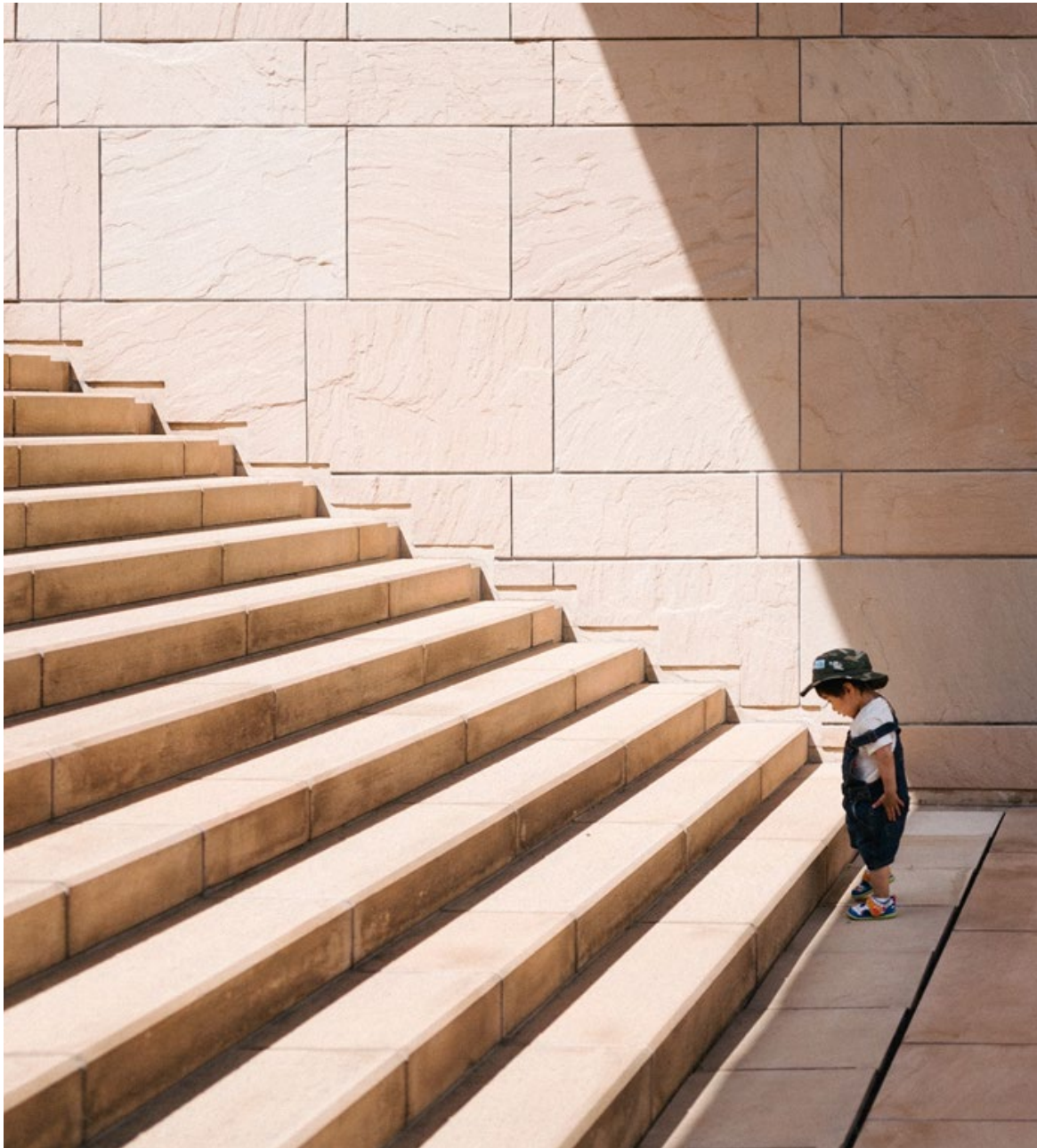
Republic of India

- Rajasthan is categorized **extremely high** for water risks
- Rural women walk **~ 1,000 km** annually to fetch water
- **Climate change** to exacerbate situation further

Baseline Water Stress  
(withdrawals/available supply)



<5% sewage recycled



## Stakeholder had their own challenges and priorities

- **Government:** Own priority towards setting water and sewerage infrastructure.
- **Urban local bodies:** Struggling to make ends meet
- **People:** Limited qty and bad quality of water. Job challenges
- **Industry:** Had challenges to run plant and undertake any growth in the region
- **Project developers:** Looking at opportunities to grow wastewater market
- **Financial institutions:** looking for sustainable opportunities

# RTI proposed “Sewage recycling for industrial application

A win-win proposition for people, government and industries

## GOVERNMENT

- Wastewater recycling policy implementation
- Enhance financial capability-ULBS
- Meet NGT guidelines



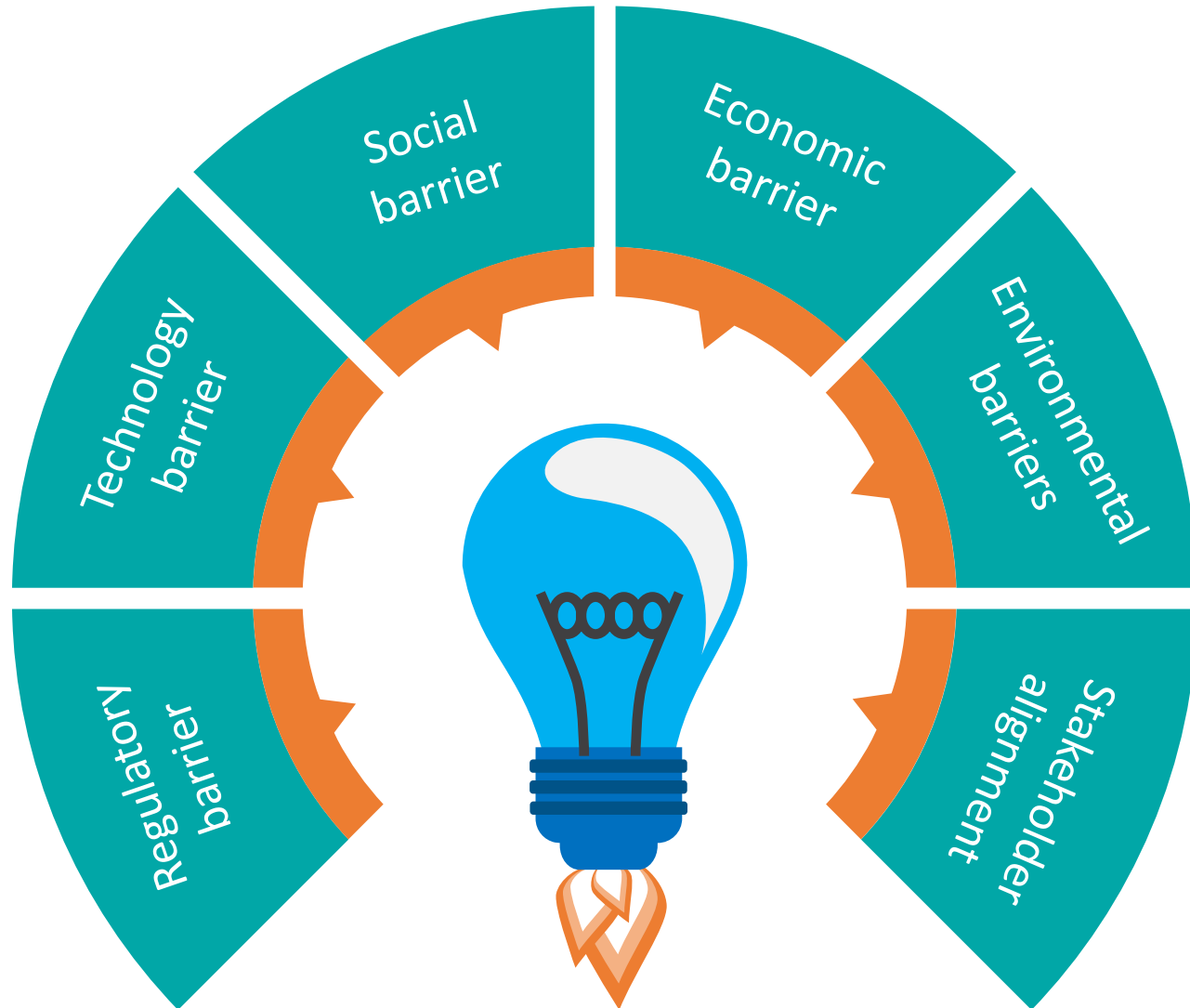
## PEOPLE

- Enhance WASH access (qty and quality)
- Enhance economic activities at state – leading to job opportunities for the poor

## INDUSTRY

- Business growth and sustenance

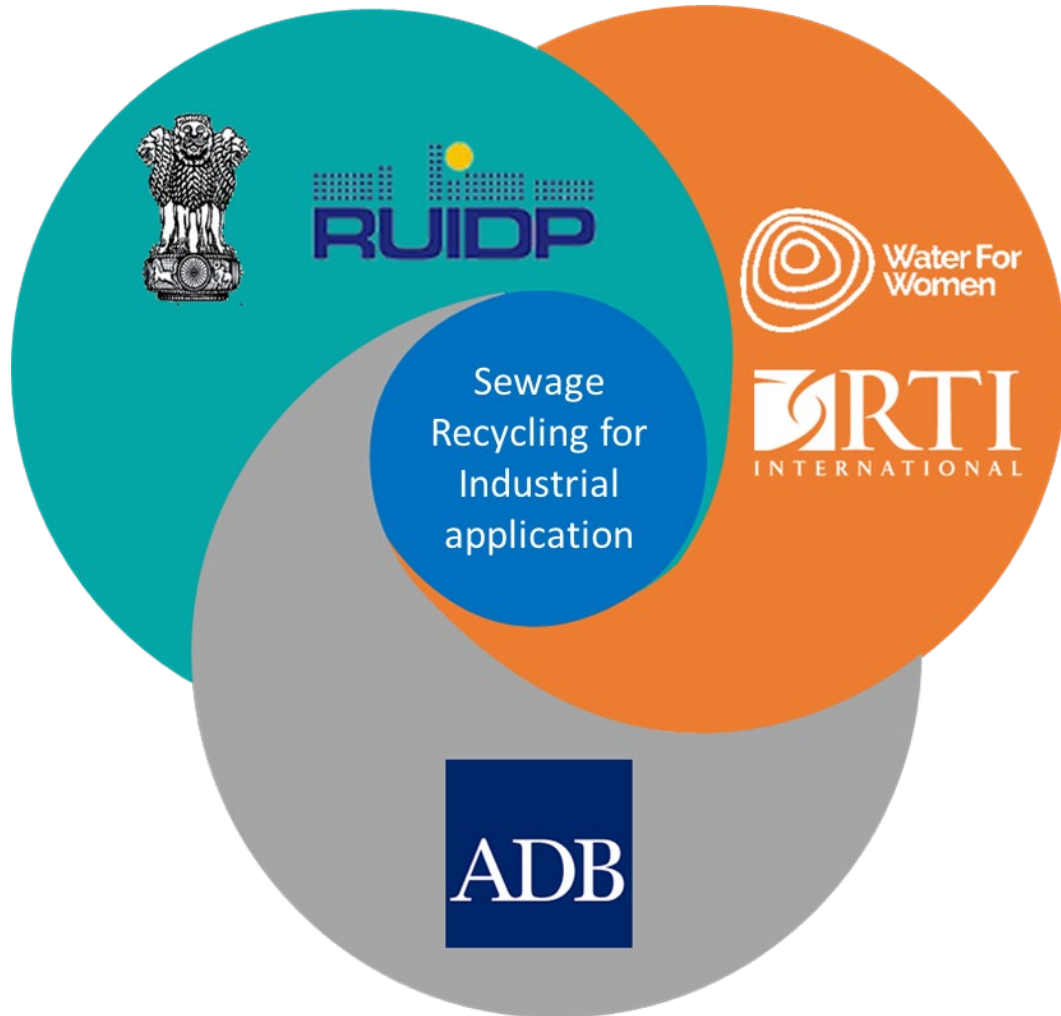
# Executing such a project is filled with several challenges and there is a need for a facilitator



- However, there is a need for **facilitator who can forge partnerships** amongst a variety of stakeholder with diverse interests and needs
- RTI undertook the facilitator role to look at all the challenges and to bring solution that could align with each stakeholder



# Scope of TA Support by WfW | RTI to Govt., and ADB



- Secure **Government buy-in**
- Identify **industrial demand for treated sewage** and secure their buy-in
- Study GoR policy and gauge alignment with project development needs
- Address **social concerns**, if any
- Develop project – ULB + Industry pairs - **first 3 demo projects**
- Undertake **techno-commercial feasibility** (business model development)
- Facilitate **stakeholder convergence**

# Stakeholders' Expectations from Business Model

## Industrial Consumers

- Not keen to invest; would rather pay a tariff
- Switching to treated sewage requires business case
- Keen on guarantee on quality of treated sewage at point-of-receipt
- No to take or pay tariff

## Government

- Bear <40% of asset cost; project developer to bear remaining CapEx and 100% OpEx
- 40% to be borne after completion of project.
- Select project developer based on lowest rate of supply of treated sewage
- Wanted “take or pay” from industry

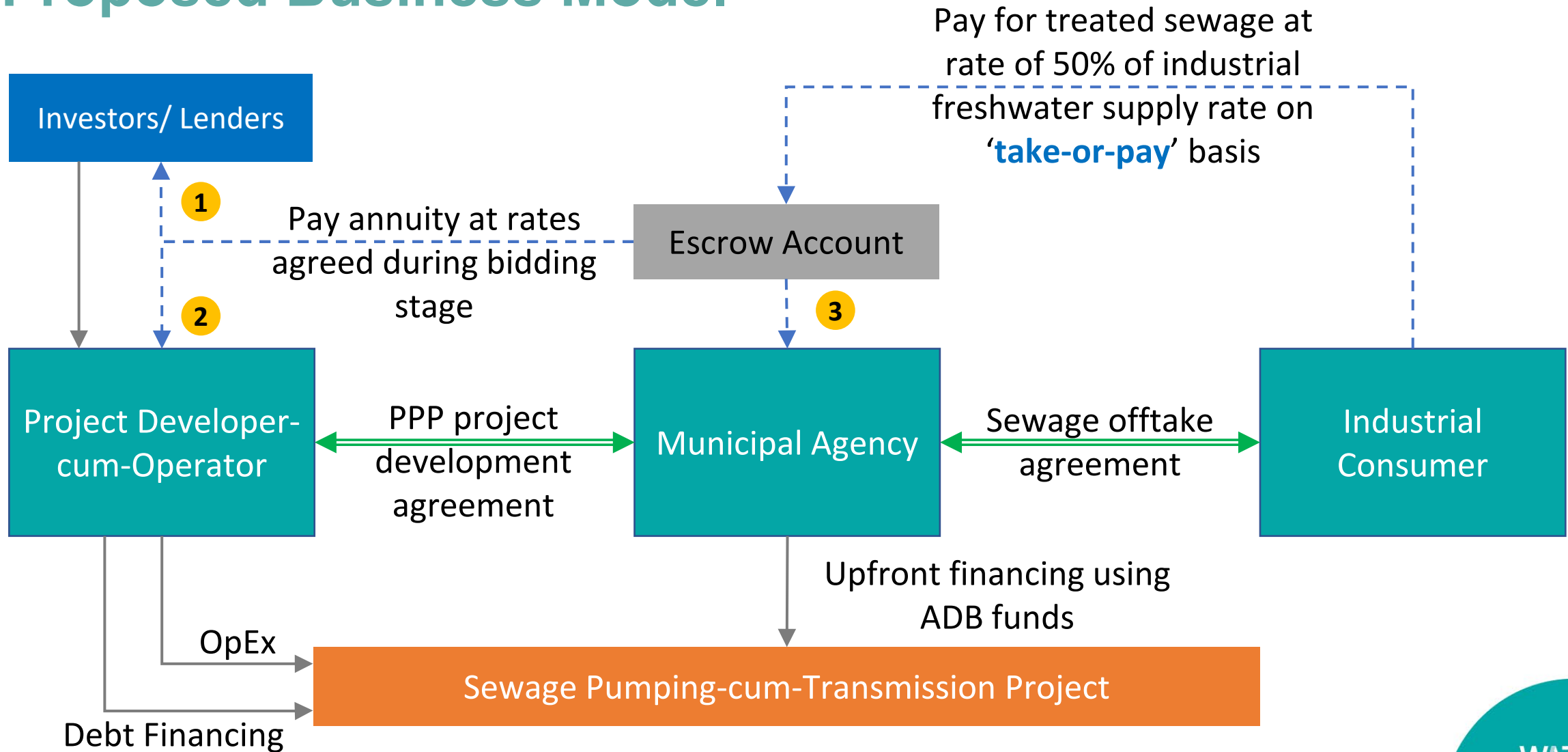
## Project Developers

- GoR contribution should be released upfront as equity contribution
- Defined fixed revenue streams to be guaranteed

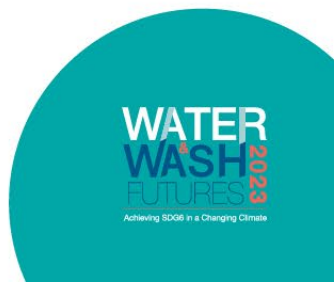
## Lenders | Investors

- Have first right to payments
- Have rights to replace project developer in case of poor performance

# Proposed Business Model



**n** Signifies n<sup>th</sup> priority of receiving payments from escrow account



# Impact Statement

3

pilots developed based on signed 'take-or-pay' guarantees secured from industries

20

million AUD (approx.) would be cumulative investment (asset cost) for pilots

70

million litres of sewage to be recycled and equivalent amt. of freshwater withdrawal avoided

250K

women (approx.) would find it easier to fetch drinking water daily due to improved freshwater availability

100:1

leverage generated, in terms of asset investment, due to TA grant by WfW Fund – blended finance

70%

Private finance leveraged

# Learnings and recommendations for replication

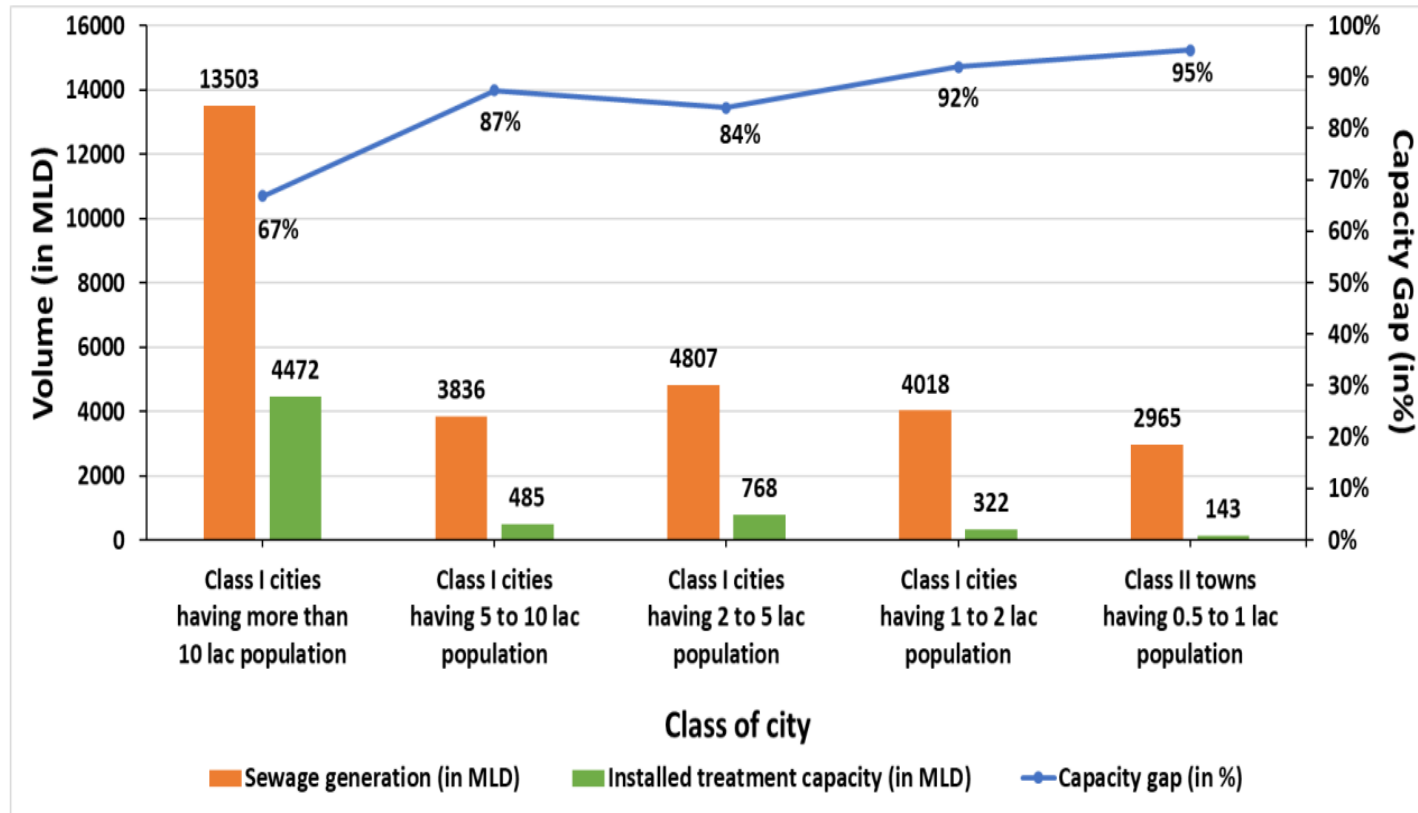


**01.** Pricing of treated sewage critical; presence of conducive policy eases process

**02.** Periodic pause-and-reflect to course correct and celebrate intermediate victories

**03.** Clear and tight documentation to avoid ambiguity

# Big Responsibilities and Bigger Ambitions



Wastewater generation and treatment capacity gap at city-level (CPCB 2022)

- India has embraced “**Big responsibilities and bigger ambitions**” and water circularity happens to be one of that
- Big potential for India to adopt sewage recycling, i.e., > **90%**
- The potential market size for sewage recycling is around **US\$ 5 BN** (assumption: 50% recycling pot)
- Sewage recycling will play a critical role in helping India become a **\$ 7.5 tr. Economy**
- **Job creation** for the population including the vulnerable section

Review:



*“The three pilot projects will help avoid extraction of 70 million litres of freshwater daily which furthers the availability of freshwater resources in the state towards more critical developmental needs. We appreciate how improved freshwater availability will also increase the resilience of Rajasthan citizens to climate change. Most importantly, this exercise has helped developing a common framework to replicate such initiatives elsewhere in Rajasthan and beyond.”*

**RUIDP and ADB joint Letter of Appreciation**

If this interests you, please reach out to me at:

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