FACTSHEET

REUSE OF TREATED WASTE WATER

Current Scenario on Practices of Reuse of Treated Wastewater in Haryana – Case Study from Gurugram and Kurukshetra

FACTSHEET: REUSE OF TREATED WASTE WATER

GLOBAL SCENARIO

GDP lost by 2050 due to water scarcity (2) 6%

Population impacted by water scarcity (1) 40%

Water scarcity projected to get twice by 2050 (2) 2X

700 million people are vulnerable to drought by 2030 (1)

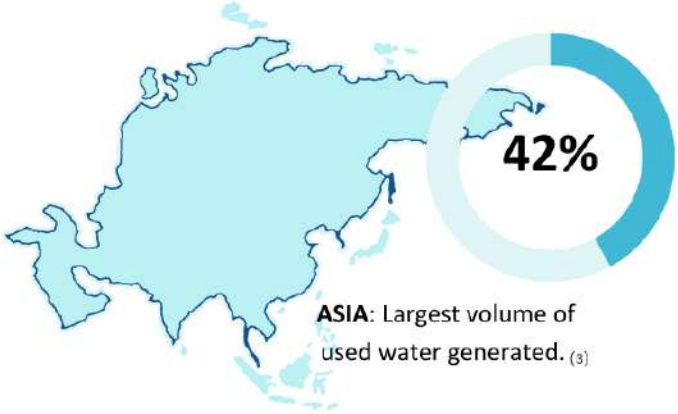
26% In 2020, Population that don't have safe drinking water (2)

46% In 2020, population lacking access to safe sanitation (2)

Severe risk to livelihood, food security & access to eletricity (2)

2-3 billion people experience water shortage for at least 1 month/ year (2)

GLOBAL USED WATER SCENARIO



ASIA: Largest volume of used water generated. (3)

USED WATER GENERATION

42% High income countries generate highest among global used water (4)

31% Generation highest in East Asia and the Pacific (4)

WATER COLLECTION AND TREATMENT

Highest in Western Europe (3)

Lowest in Southern Asia (3)

GLOBAL USED WATER GENERATION [INCOME WISE]

COUNTRY	GENERATION (IN MILLION METRE CUBE/YEAR)	COLLECTION	TREATMENT	REUSE
High Income Countries	149120	82%	74%	14%
Upper Middle Income Countries	139450	54%	43%	11%
Lower Middle Income Countries	66800	43%	41%	7%
Low Income Contries	4034	9%	4%	0%

GLOBAL USED WATER GENERATION

2050

547 billion cu. m.

2030

470 billion cu. m.

2023

380 billion cu. m.

1) World Health Organization 2) UN World Water Development Report 3) Niti Aayog 4) Global used Water Statistics

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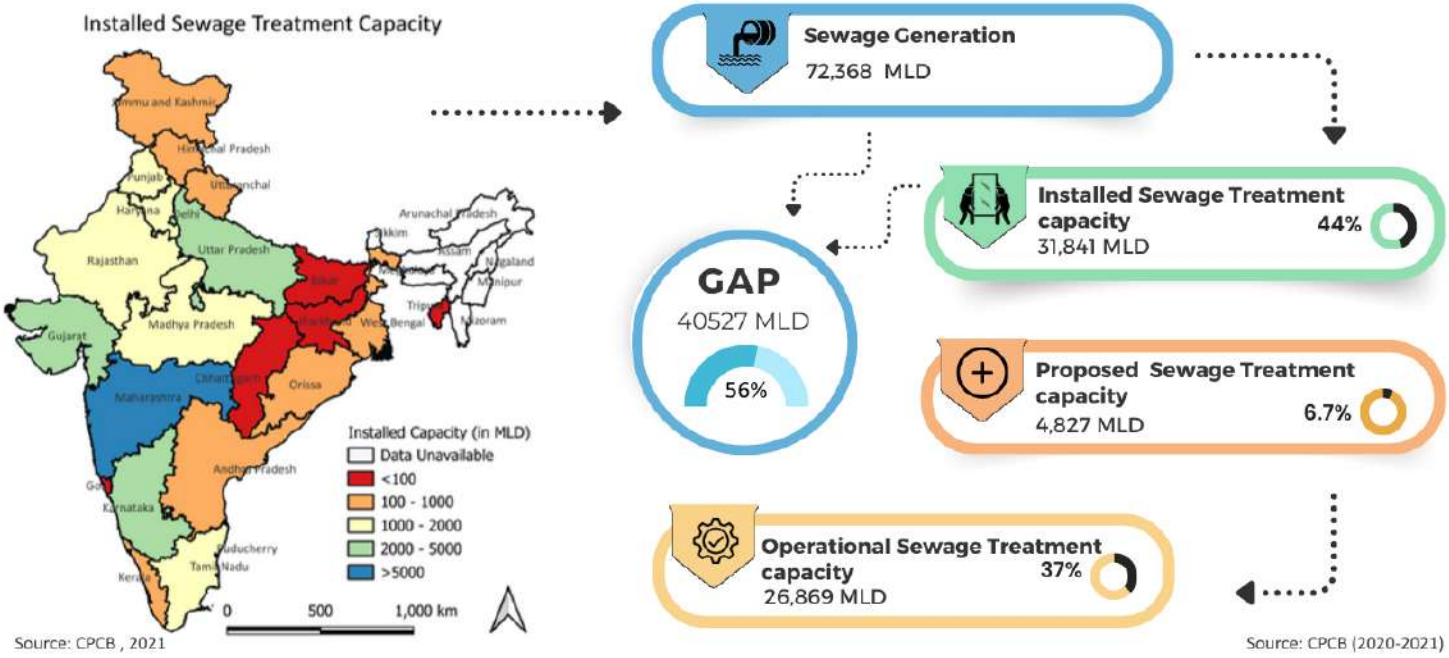
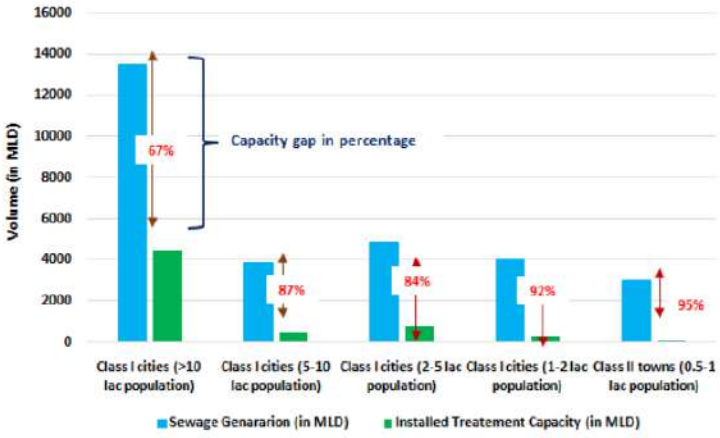
USED WATER SCENARIO IN INDIA



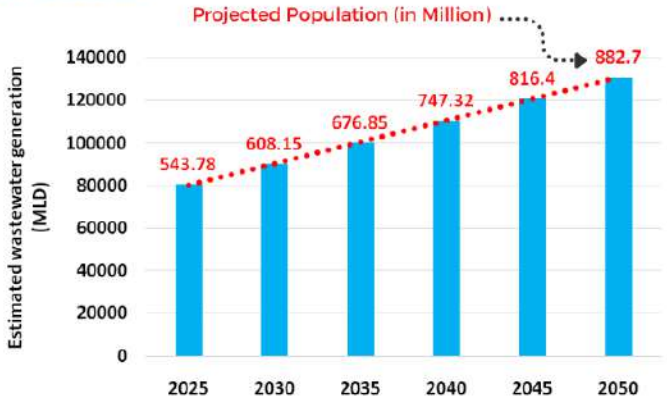
Source: CPCB , 2021

Source: CPCB (2020-2021)

SEWAGE GENERATION AND TREATMENT CAPACITY GAP AT CITY LEVEL IN INDIA

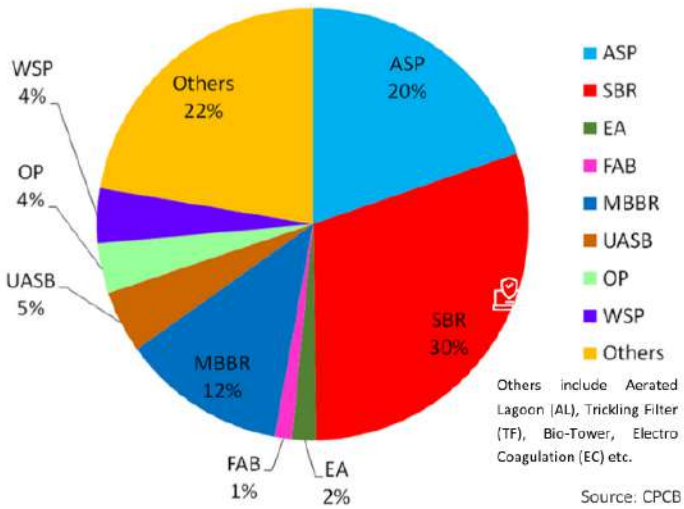


ESTIMATED WASTEWATER GENERATION & PROJECTED POPULATION



Source: Niti Aayog

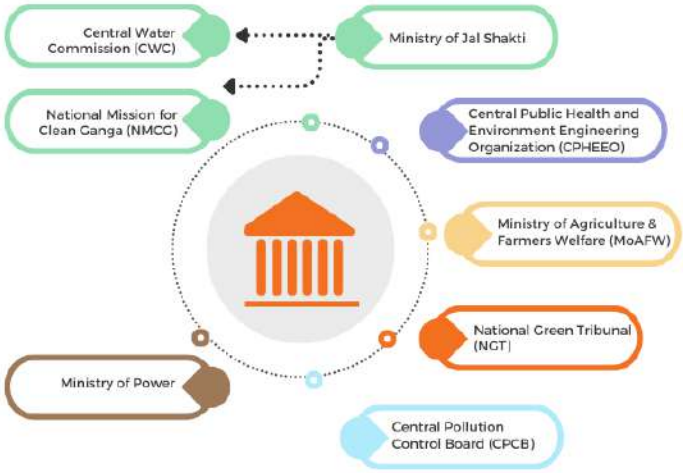
TREATMENT TECHNOLOGY IN INDIA



Others include Aerated Lagoon (AL), Trickling Filter (TF), Bio-Tower, Electro Coagulation (EC) etc.

Source: CPCB

CENTRAL LEVEL INSTITUTIONAL MECHANISM



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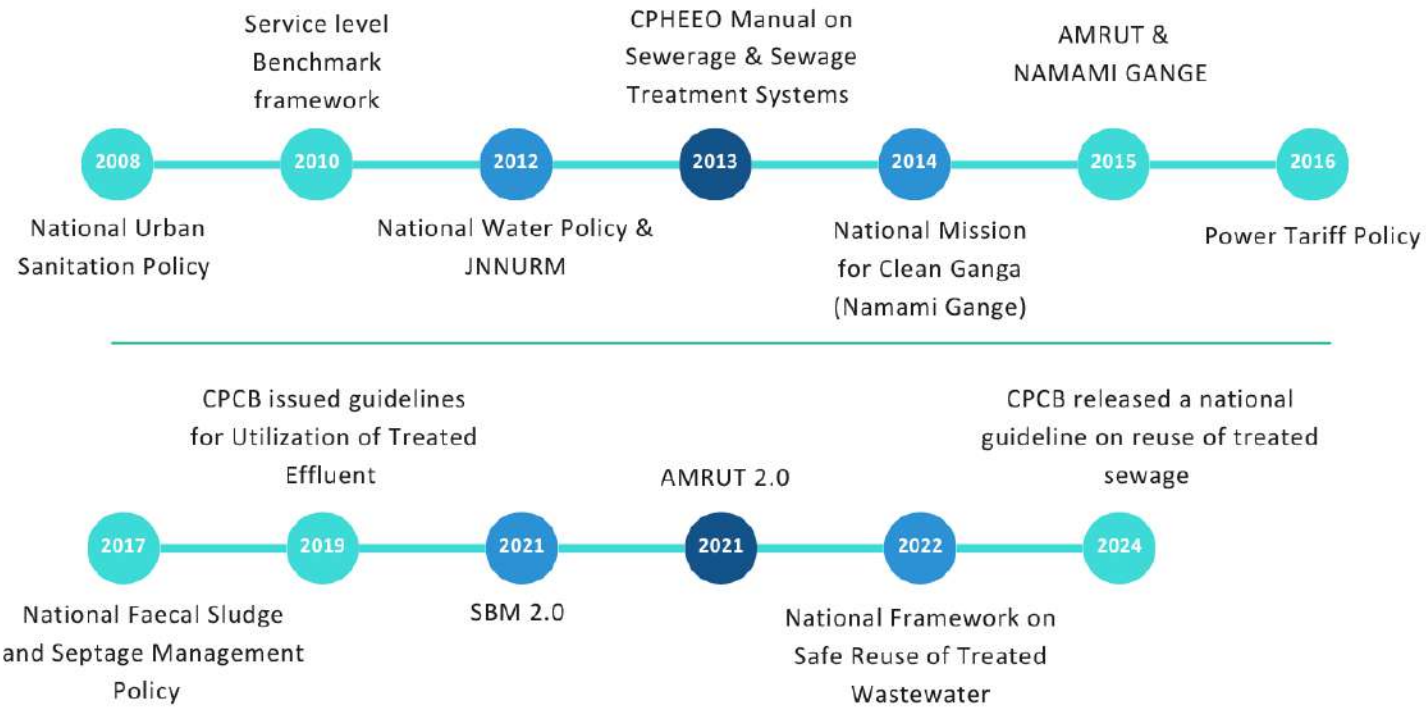
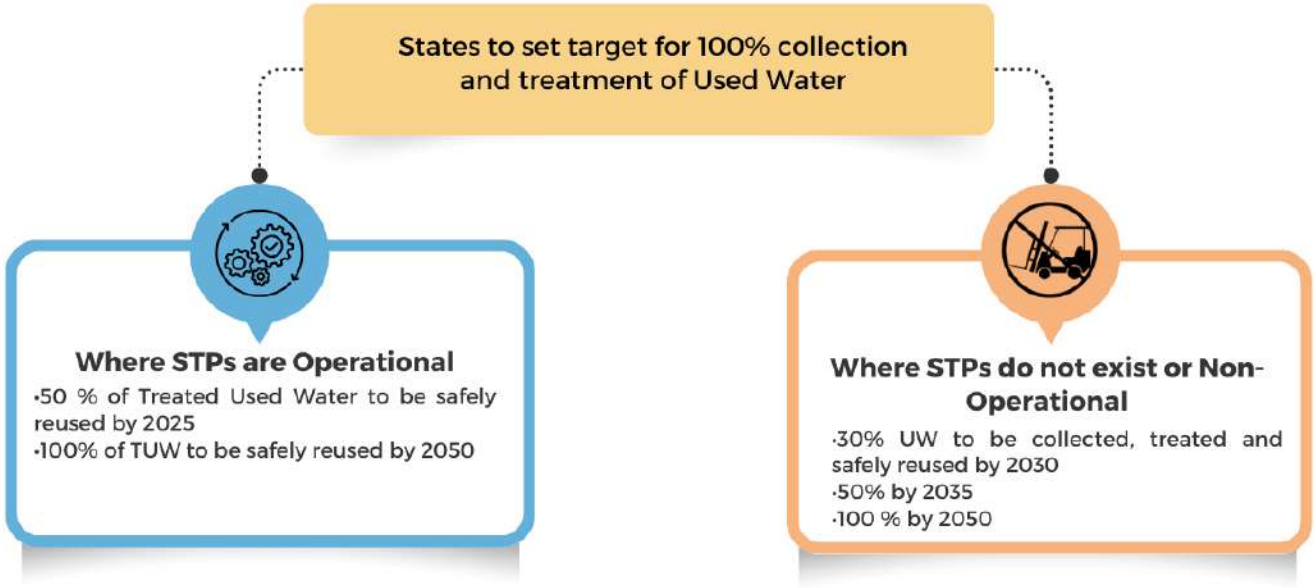
REUSE OF TREATED WASTEWATER

NATIONAL POLICIES AND PROGRAMS



TARGETS IN NATIONAL FRAMEWORK ON SAFE REUSE OF TREATED WATER



Source: CPHEEO Manual, 2013

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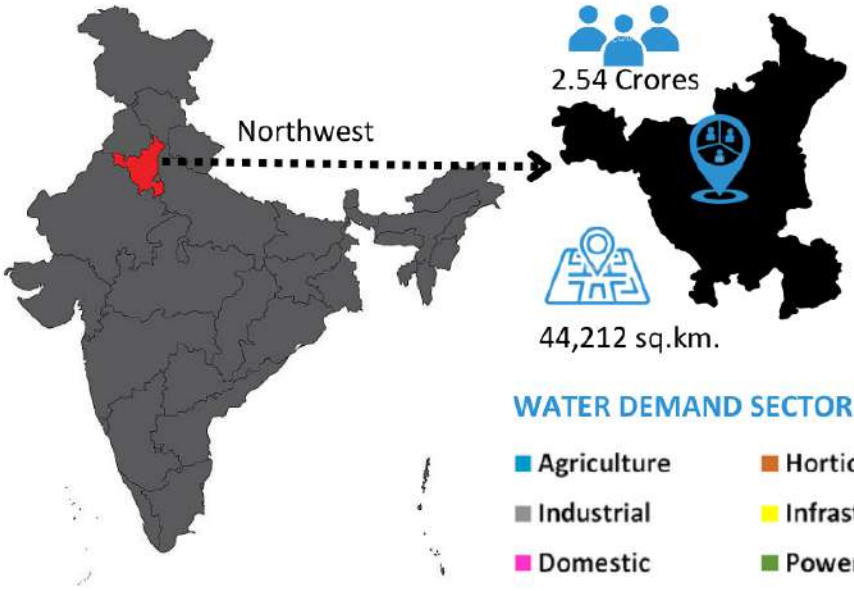
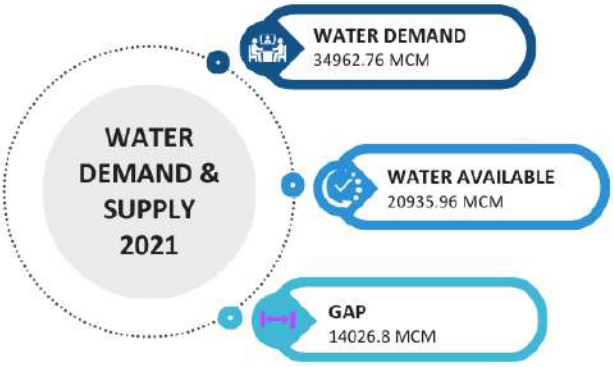
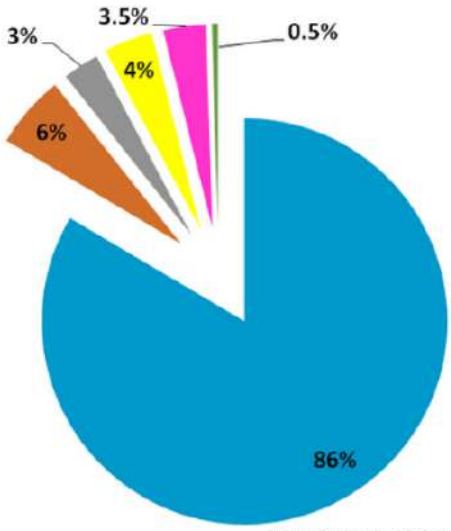
HARYANA





WATER DEMAND SECTOR WISE

- Agriculture
- Horticulture
- Industrial
- Infrastructure
- Domestic
- Power sector



Source: IWRAP, 2023-2025

CURRENT SEWAGE SCENARIO

- **Sewage Generation** 1655 MLD
- **Installed Sewage Treatment capacity** 1965 MLD
- **Operational Sewage Treatment capacity** 1965 MLD
- **Actual Utilization** 1373 MLD

CURRENT STP STATUS

- **Existing STPs** 180 STPs of 1965 MLD
- **STPs in Construction phase** 12 STPs of 300 MLD
- **STPs in Proposed phase** 11 STPs of 444 MLD
- **Complying Capacity** 1501 MLD

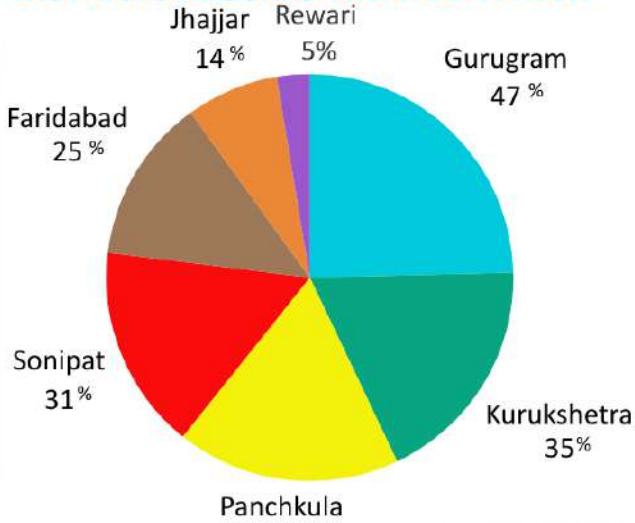
GAP IN COMPLYING CAPACITY

Source:NGT, 2023

STAKEHOLDER

- State Level High Powered Committee (SLHPC)
- State Level Technical Committee (SLTC)
- Treated Wastewater Cell
- Public Health & Engineering Department (PHED)
- Haryana Shahari Vikas Pradhikaran (HSVP)
- Gurugram Metro Development Authority
- Haryana State Industrial & Infrastructure Development Corporation
- Haryana State Pollution Control Board
- Private/ External Sector
- Users
- Urban Local Body

DISTRICTS REUSING TREATED WATER



Source: IWRAP, 2023-2025

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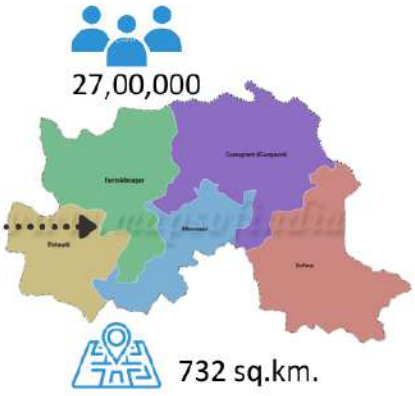
GURUGRAM



Water Demand

-Residential: 465 MLD (27 Lakh@172 LPCD).
-Industrial, Institutional, commercial usage: 120 MLD.
-Total: 585 MLD.

Water Supply

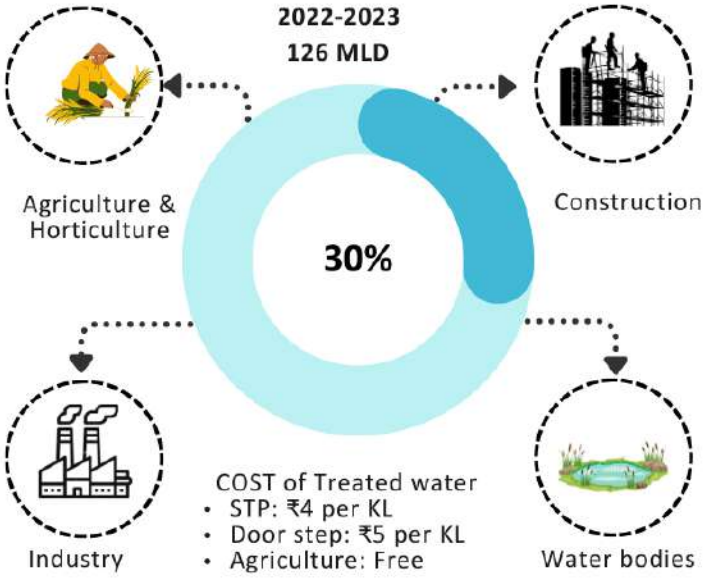
-570 MLD from Canal
-70 MLD from tube wells.
Total: 640 MLD.

Source: GMDA

CURRENT SEWAGE SCENARIO

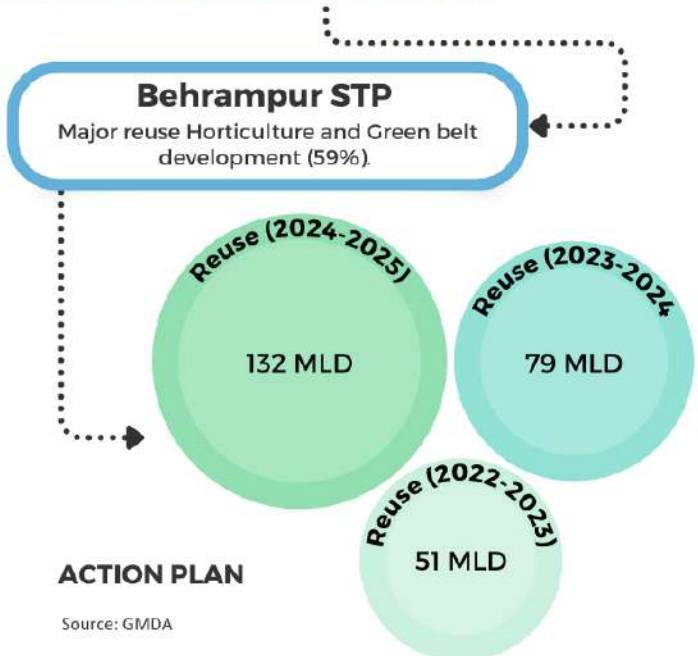
Source: GMDA

REUSE OF TREATED WATER



Source: HWRA Order 15-07-2022

CASE STUDY OF REUSED WATER



Source: GMDA

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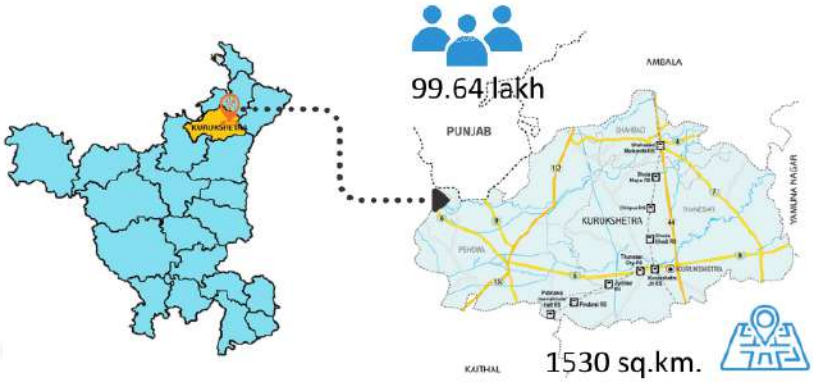
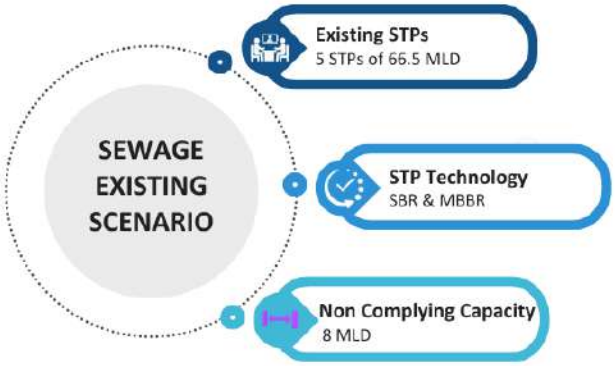
KURUKSHETRA



CURRENT SEWAGE SCENARIO

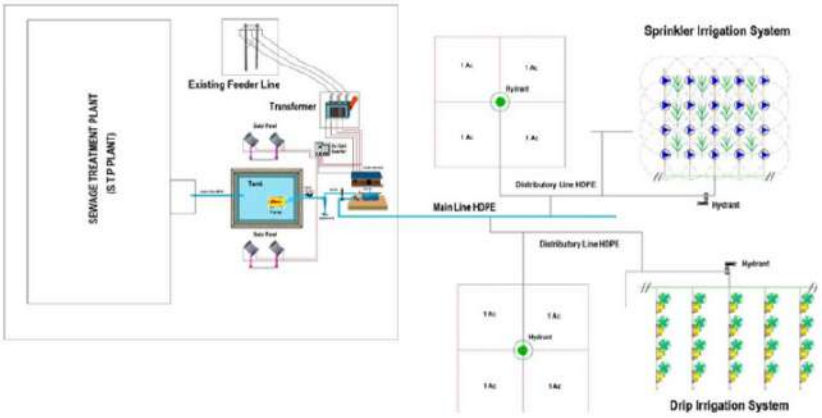


CURRENT REUSE OF TREATED WATER

30% of the total treated water is being reused majorly for agriculture purpose.

Micro Irrigation Command Area Development Authority (MICADA) unit of the irrigation department in Kurukshetra has implemented reuse project for the Shahabad, Ladwa, and Pehowa Sewage Treatment Plants (STPs) for agricultural irrigation.

CADA HARYANA
LAYOUT OF IRRIGATION INFRASTRUCTURE
SOLAR POWERED MICRO IRRIGATION PROJECT



Source: MICADA, Department of Irrigation, Kurukshetra, Haryana

REUSE CURRENT SCENARIO

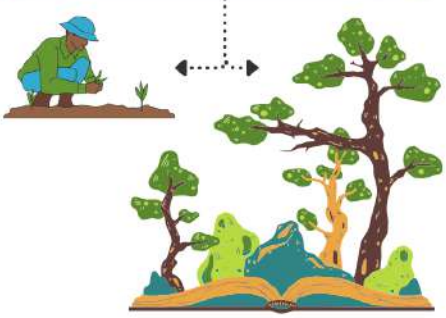
Sewage Treatment Plant in Shahabad, Ladwa & Pehowa in Kurukshetra District- Case studies of reuse of treated water in agriculture.

Shahabad STP

Constructed reservoir to store the treated water in the premises of Ladwa STP

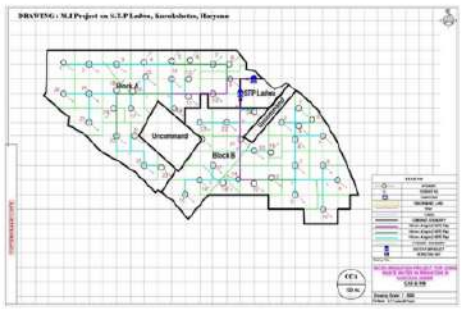
After the treatment from the STP, the treated water is stored in a reservoir. This water is distributed to farmers in Chhapra village through underground pipelines that stretch for a distance of 10,950 meters.

Pehowa STP



In addition to agriculture, the treated water is also supplied to a nearby 7-acre forest area upon request, and an average of 1-1.25 MLD of treated water is provided every other day.

Ladwa STP



The detailed plan of the micro-irrigation project implemented in Ladwa STP, utilizing the treated water, can be seen in above figure.

Source: MICADA, Department of Irrigation, Kurukshetra, Haryana

Centre for Science and Environment

41, Tughlakabad Institutional Area, New Delhi 110 062

Phones: 91-11-40616000 Fax: 91-11-29955879

E-mail: cseindia@cseindia.org Website: www.cseindia.org