



Strengthening climate resilience in WASH and CWIS

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*Leadership Development for Citywide Inclusive Sanitation with a Climate-Resilient Approach
ASCI-ADBI - 6th Cohort
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Small and Medium towns of Maharashtra acting as “Urban laboratories” for Strengthening climate resilience in WASH and CWIS ...

- 6 Small and Medium towns of Maharashtra ranging from **40,000 to 4 lakh population**
- Towns are **located in different climate conditions** facing drought as well as flood situations
- All towns have **different WASH services context in terms of services provision both onsite and offsite water and sanitation services.**
- Project initiatives have been **led by local governments** and integrated into the existing institutional framework
- **Convergence with existing central and state mission** programs leveraged for citywide scale up

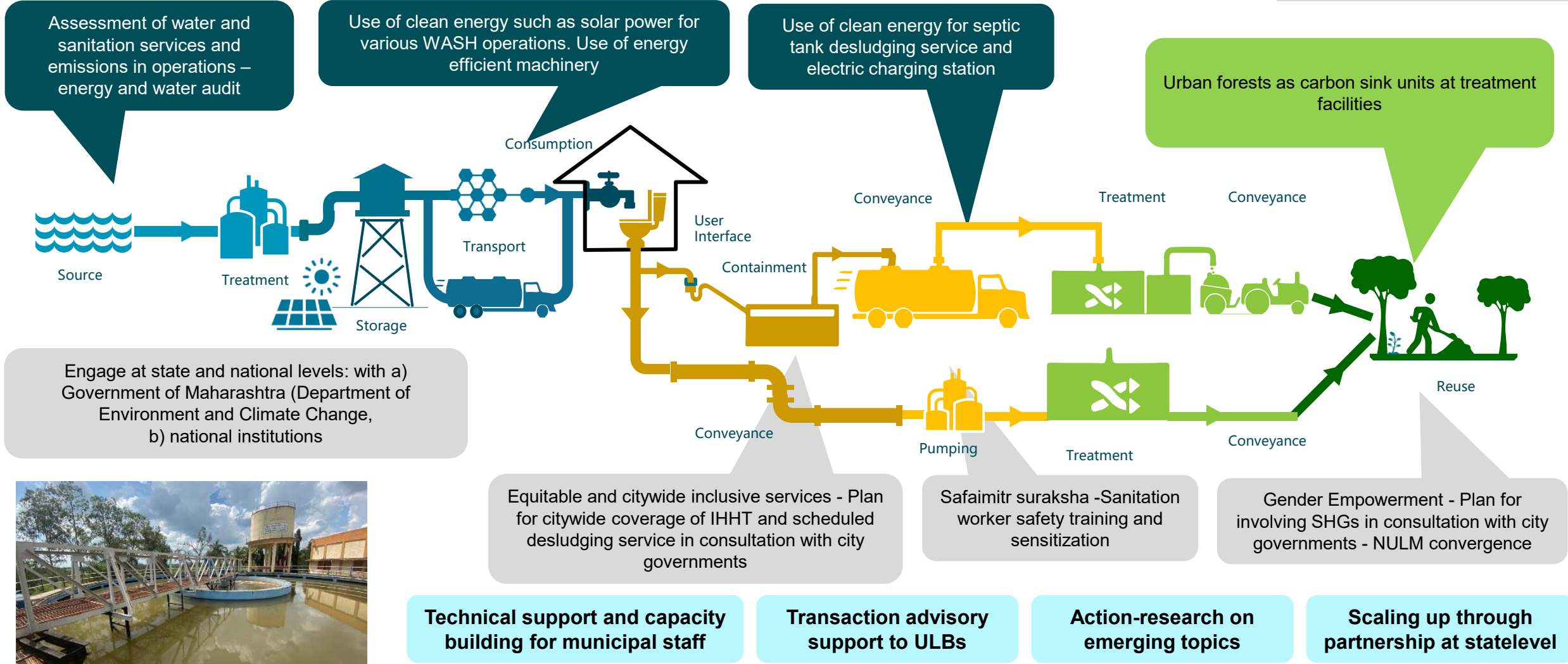


Climate Inclusive WASH services ...

Energy Transition

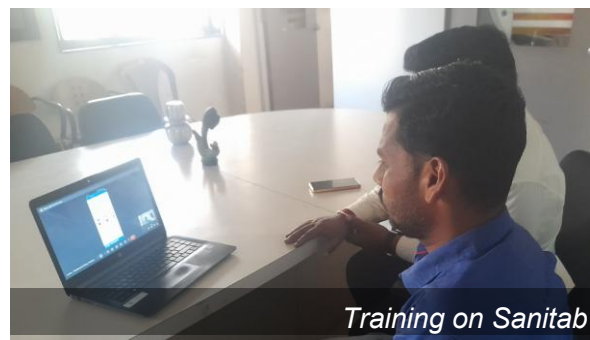
Nature Based Solutions

Inclusive services



Supporting cities to move towards universal access to individual toilets to be climate resilient...

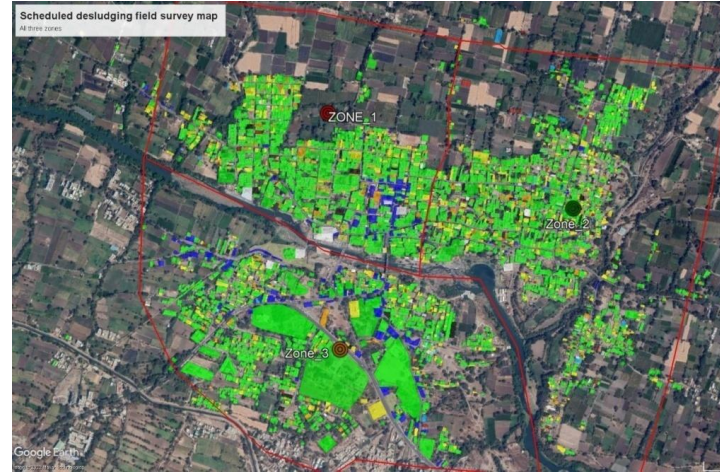
- Supported households mainly **facing space or financial constraints** for which CWAS has supported ULBs
- Support was provided in mobilizing toilet applications, especially in **slum and vulnerable areas** and areas affected by Climate risks
- **Spatial mapping** of areas having high dependence on CTs and identifying HHs to move towards individual toilets
- Digital household survey conducted using **Sanitab app** in local language supported by training by sanitation supervisors.



Training on Sanitab for IHHT survey and on field survey for mobilizing applications for IHHT

Scheduled desludging leading to multidimension positive impact...

- More than **10,000 septic tanks** have been desludged in these cities. With Wai completing 1st cycle of scheduled desludging.
- Leading to reducing **60 % organic load in drains** and improving river water quality.
- Safely collecting and treatment of **90 + million** liters of faecal sludge.
- Scheduled desludging is **ongoing in Ichalkaranji, Vita, Sinnar, Wai and Satara through private sector** engagement



- Reduction in Nitrogen, Total Suspended solids and Organic loads in septic tanks effluent after desludging them



- Reduced concentration from septic tank effluent helped in reducing the discharge of nitrogen and TSS into the open drains
- 50-60% decrease in the value of TSS in desludged areas
- 50-60% decrease in BOD load in drains in desludged areas



- Regular desludging services will eventually improve the quality of river water and ground water as the quality of drain water and supernatants will improve

Energy transition for municipal waste management operations through solar installations ...

- **280 Kw solar pilots** at WASH infrastructure helped leverage **2000+ Kw** of Solar projects using public funds by the local governments
- **FSTP cities such of Wai, Vita and Satara** are energy neutral
- IMC have floated a tender for installation of solar panels of capacity **800kW**.



Wai FSTP - 30Kw

Ichalkaranji WTP- 81 Kw

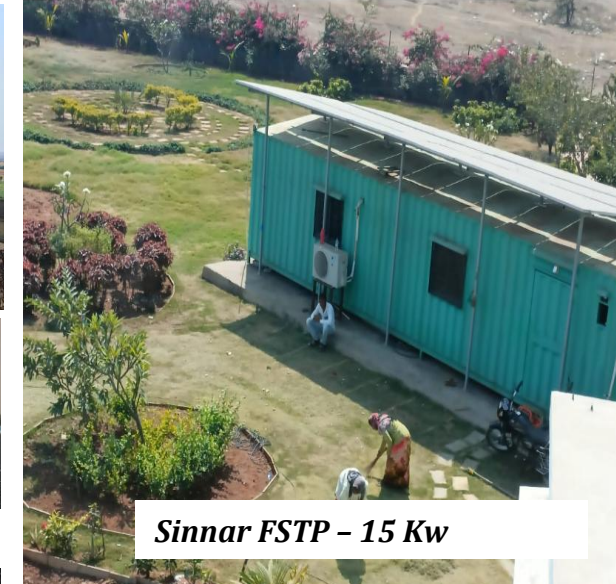
Karad STP- 72 Kw



Satara FSTP - 30 Kw



Vita FSTP and Pumping stations - 30 Kw



Sinnar FSTP - 15 Kw

Urban forest (carbon sinks) at FSTP using treated wastewater ...

- Almost **19,764 Sq.mt. barren area** developed to urban forest in all the six cities with total 10,306 trees planted, and 80 million liters of fresh water has been saved.
- The **treated wastewater is** used to develop urban forests adjacent to treatment facilities.
- Urban forests involve planting saplings, primarily of local **indigenous varieties**.



Gender empowerment through formal engagement of SHGs and gender sensitization techniques ...

- Women NULM registered SHGs have been formally engaged through **SHG only tenders** and model SHG friendly contracts.
- The SHGs have been engaged for **O&M of urban forest, O&M of MHM machines, grey water treatment plants, facility management of ULB buildings**
- In order to strengthen the inclusion of **gender, sexuality, and rights in urban sanitation** gender sensitization trainings conducted for HODs and sanitation workers.



Gender trainings of HODs



Meeting with SHG and NULM Department



Gender trainings of sanitation workers

Summary of impacts for cities moving towards climate inclusive WASH services ...

8 lakh beneficiaries impacted across six cities

FSSM services (scheduled desludging and treatment)

Scheduled desludging through PPP being implemented, to provide inclusive services to **700,000 people**

90+ million litre septage delivered and treated at the treatment facilities

90-95% acceptance rate from HHs for scheduled service

Households pay sanitation tax instead of high user charges for desludging

Vulnerable properties are being serviced through scheduled desludging services



Climate change related (urban forest and solar powered FSTP)

19,500+ sqmt of Urban forests as carbon sinks at WW treatment facilities has helped leverage **30,000sqmt** of Urban forest

80 million litres of fresh water saved by using of treated water from **STP/FSTPs** for urban forests

10,000+ trees planted during project period

280 Kw solar pilots at WASH infrastructure helped leverage **2000+ Kw of Solar projects** from cities



Inclusive services (Gender empowerment & sanitation worker safety)

Women SHGs formally engaged for O&M of the urban forest

MHM facilities catering to **2000+ vulnerable population** through CTs/PTs in these cities **managed by SHGs**

Gender inclusivity sessions with **200+ ULB staff**

Safety of 1000+ Sanitation workers ensured through **trainings** and **model contract clauses**



STATEWIDE SCALING UP

MoU with Government of Maharashtra **Urban Development Department** and **Department of Environment and Climate Change** for scaling up initiatives at State level

Continue efforts towards scale up and convergence across national and international platforms

City

CWAS – in partnership with the city ULBs moving towards Climate Resilient WASH

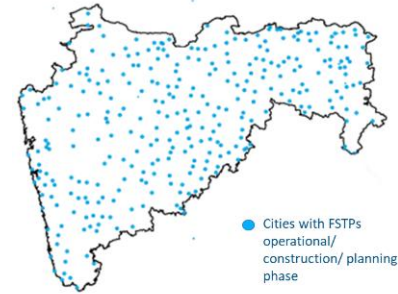


- Scaleup of Climate, CWIS and WASH related activities using council funds thereby leveraging the funds and resources.
- Expanding efforts towards water conservation and restoration.

State

CWAS - Partner to the state government for implementing the SWACHH MAHARASHTRA MISSION URBAN and

MAJHI VASUNDAHRA MISSION –
400 cities
60 Million Urban population



- 'Swachha Bharat Mission 2.0' mandates provision of scheduled desludging service as a part of ODF++ protocol in India
- 1000+ FSTPs in planning or implementation phase in India, 300+ FSTPs alone coming up in Maharashtra.
- Resource recovery and use of clean energy - adopted in these cities
- Cities contributing towards achieving SDG 5, 6, 13, 11, 17.
- SBM-NULM-Majhi Vasundhara convergence initiative at state level is also being implemented in Maharashtra.

National

Influenced National Policies and guidelines



Global

Support to Kabwe, Zambia for Scheduled Desludging



<https://cwas.org.in>



CWAS CENTER FOR WATER AND SANITATION

CRDF CEPT RESEARCH AND DEVELOPMENT FOUNDATION

CEPT UNIVERSITY

Thank You

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About us

The Center for Water and Sanitation (CWAS) is a part of CEPT Research and Development Foundation (CRDF) at CEPT University. CWAS undertakes action-research, implementation support, capacity building and advocacy in the field of urban water and sanitation. Acting as a thought catalyst and facilitator, CWAS works closely with all levels of governments - national, state and local to support them in delivering water and sanitation services in an efficient, effective and equitable manner.



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