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**Asia Water Forum 2022**

8–11 August 2022 • Online



Focus Area: Universal water supply and sanitation services

Session Title: Development Impact Bond for Urban Sanitation

Schedule: [10 August 2022 (Wed), 3:00 p.m. - 4:30 p.m. (GMT+08)]

**CWAS** CENTER  
FOR WATER AND  
SANITATION

**CRDF** CEPT RESEARCH  
AND DEVELOPMENT  
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## Urban Sanitation Challenge in India

**Urban sanitation has been neglected in Indian cities due to lack of technical guidance, inadequate resources, skills and lack of finance**



Nearly **60%** of urban India relies on **On-Site Sanitation (OSS)** systems<sup>1</sup>



**600 people died** cleaning septic tanks and sewers in the past 25 years



**70-80%** of the sewage in Urban India is left **untreated** posing environment and health risks<sup>2</sup>



**365,000 – 500,000 deaths** in children (under 5 years) due to Diarrheal diseases

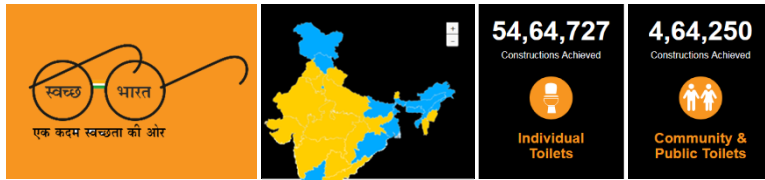
**The health and economic impacts of inadequate sanitation in India is causing an estimated loss of USD 53.8 billion a year (6.4% of GDP)**





## It is critical to address FSSM in India to achieve SDG 6.2 !

The Swachh Bharat Mission has addressed toilet access successfully...



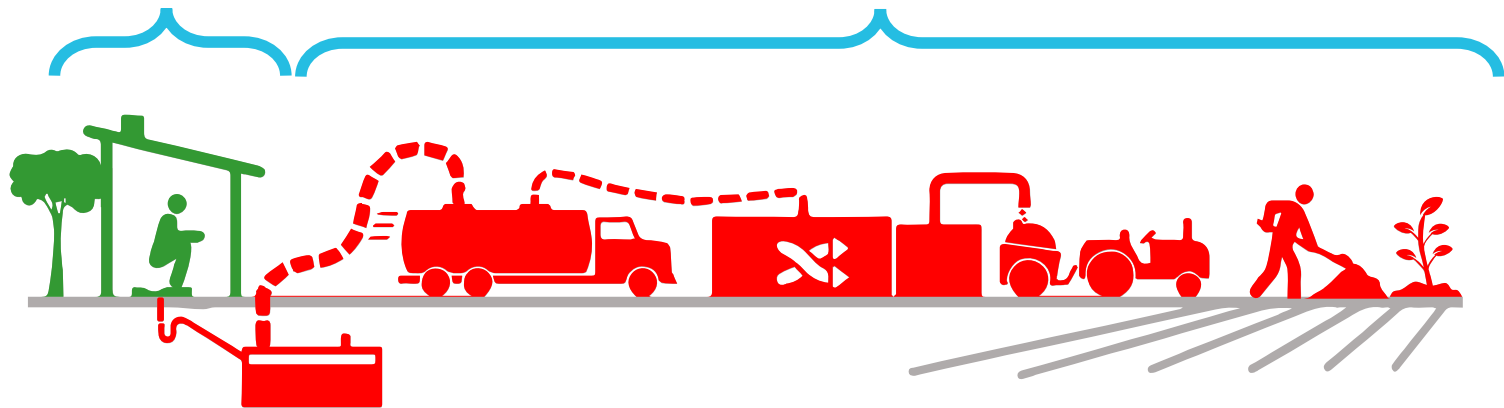
Need to focus now on Fecal sludge and septage management (FSSM) to sustain the SBM momentum and fully achieve SDG 6.2



6.6 MILLION TOILETS  
CONSTRUCTED



98% CITIES  
OPEN DEFECTION FREE





# An Integrated FSSM approach needed through inclusive, efficient and affordable sanitation services

## DEMAND

Less demand for regular desludging



Low frequency of desludging leads to lower use of toilets



High cost per desludging



Low Awareness and acceptance of regular desludging

## DESLUDGING

Barriers in supply side for regular tank cleaning and septage collection



Lack of formal players



Illegal use of manual labour



Inability to recover costs & achieve scale



Underutilization of assets



Low business prospects in on-demand services

## TREATMENT

Barriers for proper fecal sludge treatment



Lack of adequate treatment plants



Lack of designated sites for septage treatment



Environmental & Health impact of untreated septage





# Successful models cities of Wai and Sinnar in Maharashtra, India

Scheduled desludging of septic tanks (~ 3 years)



Ensure safe delivery and treatment at Faecal Sludge treatment Plant



Smart Monitoring systems



PPE usage for San-workers and women livelihood



## Outcomes : Wai city

7-8 septic tanks per day

Number of septic tanks desludged per day as compared to 7-8 per month when demand desludging was happening

4000+

Properties served with scheduled desludging services over three year duration

93%

Household acceptance rate for scheduled service

20 ML

Amount of Faecal sludge delivered to treatment plant over three year duration



Development Impact bond is proposed to scale up experience of two cities and to explore different business models in different cities

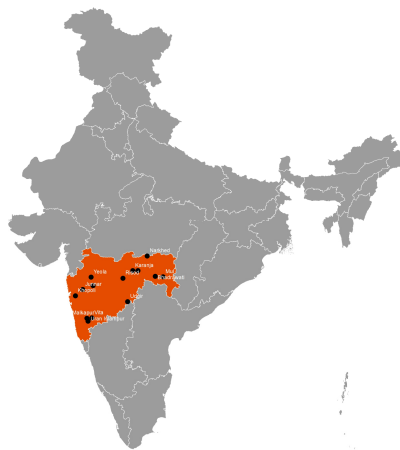




# Urban Sanitation Impact Bond - A Pay for Performance Instrument

The proposed intervention is a result based innovative financing approach focused to build on ODF towards ODF++ by catalyzing national and state policy on “Fecal Sludge and Septage Management” (FSSM)

## Scale of Intervention



15  
CITIES

6  
DIVISIONS

## Proposed Intervention



Timely and safe emptying of On-Site Sanitation (OSS) for all



Safe transportation and Treatment of Fecal sludge for healthy community and environment



Promote social entrepreneurs with financially sustainable models and institutionalize best practices & regulations



Ensure Urban Local Bodies (ULB) can sustain operations and maintenance costs from own financial resources



IMPACT  
ENVISIONED



**0.8 Million**  
People positively  
impacted

**↑ 100K**  
Septic tanks  
desludged

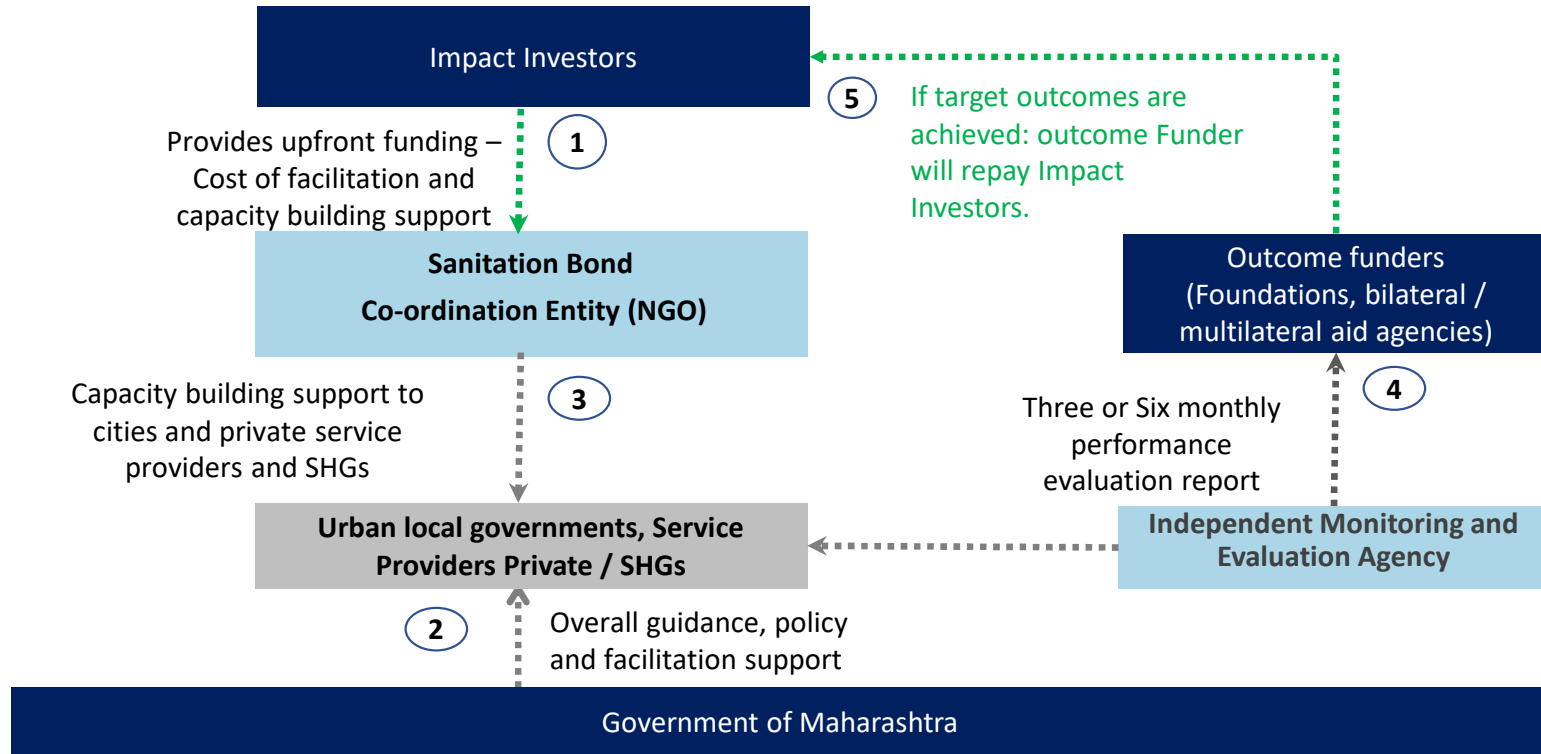


**700 KLD**  
Septage treated at  
treatment plant





# Proposed Financing Framework - Pay for Performance Instrument



**Impact investment**  
**1.0 Million USD**

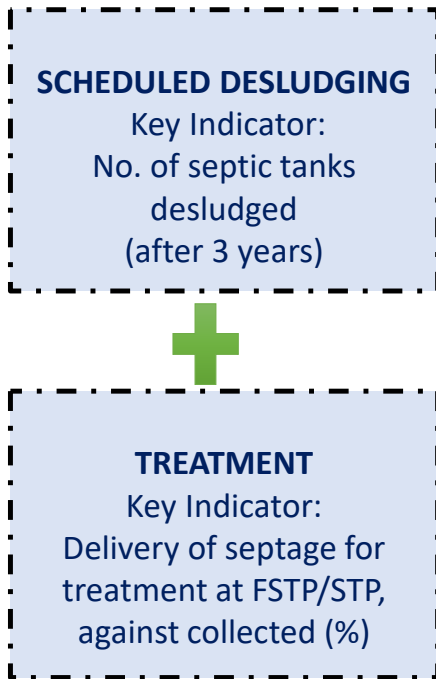
**Outcome funding**  
**1.1 Million USD**

**Estimated costs borne by city governments for O&M**  
**2.5 Million USD**



# Payment outcomes will be measured through digital monitoring systems and third-party evaluations

## Target Outcomes and payment indicators



The 'pay for performance' intervention uses two key measurable outcomes, against which performance-linked payment will be released by outcome funders

## IT enabled monitoring systems for FSSM

“Real time” monitoring  
No need to process data for results



Photo stamping,  
Geo stamping,  
Signatures



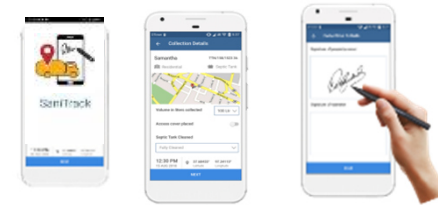
Monitors performance of  
FSSM services



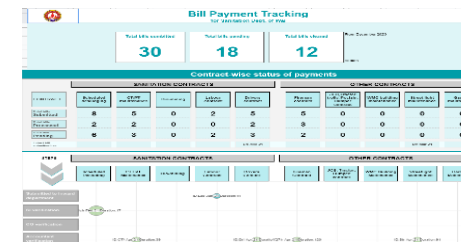
Payment dashboard to  
ensure that there are no  
delay in payments



### SaniTrack



### Payment tracking platform dashboard



These systems have been used in cities in Maharashtra and can be scaled up to other cities





## Envisaged Wider Impacts of Sanitation Impact Bond

Large Social, Economic and Environmental Benefits

### SOCIAL

**EQUITABLE, AFFORDABLE & INCLUSIVE SERVICES**

**COMMUNITY AWARENESS**

**SANITATION WORKER SAFETY**

### ECONOMIC

**BUSINESS OPPORTUNITIES**  
for entrepreneurs

**GREATER CAPACITIES**  
service providers and local governments

**LIVELIHOOD OPPORTUNITIES**

### ENVIRONMENT

**HEALTH IMPACT**  
Improved health outcomes for children and all (morbidity and mortality)

**ENVIRONMENT IMPACT**  
Significant improvement in water/ soil quality due to reduced contamination

**Sanitation Impact bond will also have impact on climate change and SDG 6 !**





## Key Learnings

- Development Impact Bond is an **Innovative and flexible financing tool** which has the potential to compliment **government financial resources** and drive efficiency in operations in a scalable and sustainable manner.
- DIB provides **more flexibility than a traditional grant** to test innovative approaches and **outcomes-focused** adaptive management techniques.
- Through DIB it is possible to **measure outcomes of improved sanitation** and introduce a rigorous monitoring system which is easily possible but somehow missing in the sanitation sector.
- It is envisaged that success of a DIB in urban sanitation will act as a **model case for future potential investors**. This will contribute to the progress of achieving SDG 6, which seeks **better sanitation outcomes**.



Full report on Urban sanitation impact bond is available at : <https://cwas.org.in/cwas-resources/development-impact-bond-dib-for-safe-sanitation>



# 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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