Climate Resilient Infrastructure and Green Financing

क्लायमेट रेसिलियन्ट सुविधा आणि वित्तीय उपाय

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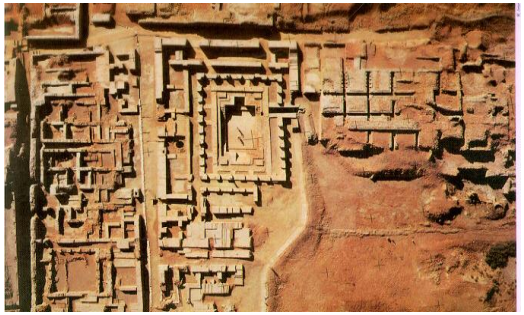
What does History tell us? Civilization/Cities have collapsed due to lack of water..

इतिहास आपल्याला काय सांगतो? पाण्याच्या अभावामुळे संस्कृती आणि शहरे ह्यांचा ह्रास झाला..

Mayan civilization: Drought led famine?

Indus Valley Civilization: From sewers and trade ports to abandoned cities



Fatehpur Sikri: Grand capital but dying water source

Modern disasters?

Mexico City Day Zero scare

Cape Town Day Zero


CAPE TIMES

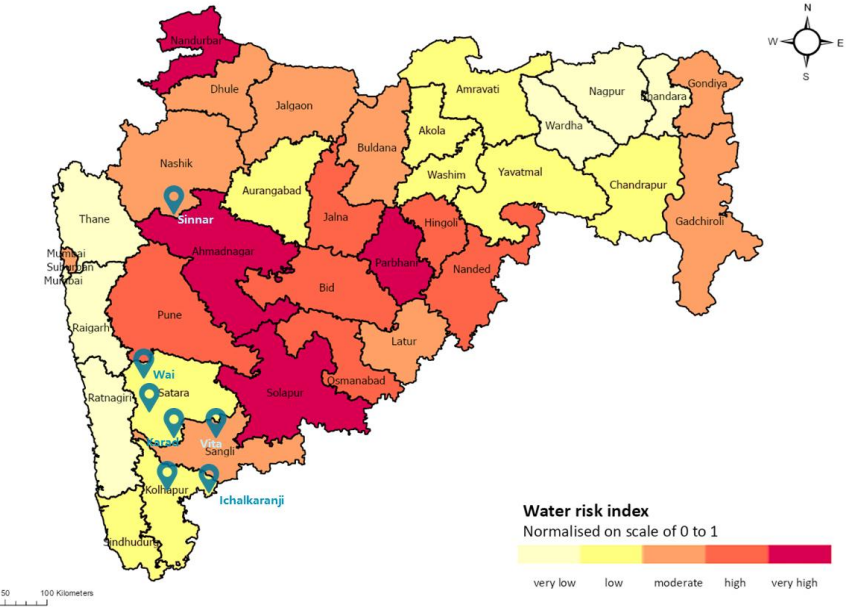
How city will pay for Day Zero

DAY ZERO GUIDELINES

Chennai – Floods followed by drought

With low rainfall and limited water storage in the aquifers, central Maharashtra at high climate and water risk

कमी पाऊस आणि भूजल साठा यांच्या क्षमतेच्या मर्यादेमुळे मध्य महाराष्ट्रामध्ये हवामान प समस्या उद्भवली आहे..



- In the state's 36 districts, **11 are water-stressed** (less than 1,700 cubic meters per capita per year), and **18 are water-scarce** (less than 1,000 cubic meters per capita per annum).
- The overall **climate water risk is highest for districts in central Maharashtra and Marathwada**, particularly **Ahilyanagar (Ahmednagar), Nandurbar, Parbhani, and Solapur.**
- Seasonal groundwater scarcity is prevalent in Vidarbha and Marathwada regions, mainly due to the hard rock aquifers which have **limited storage and low-yield potential.**

Table 4.6 Vulnerable districts of Maharashtra

District	Event	Vulnerability
Sangli	Drought	Very high
Ahmednagar	Drought	Very high
Solapur	Drought	Very high
Dhule	Drought	Very high
Mumbai City	Flood & cyclone	Very high
Mumbai Suburban	Flood & cyclone	Very high
Buldhana	Drought	Very high
Hingoli	Drought	Very high
Jalgaon	Flood & drought	Very high
Osmanabad	Drought	High
Parbhani	Drought	High
Nandurbar	Drought	High
Nagpur	Drought	High
Satara	Drought	High
Akola	Drought	High
Nanded	Drought	High
Beed	Drought	High
Aurangabad	Flood & drought	High
Latur	Drought	Moderate
Pune	Flood & drought	Moderate
Amravati	Flood & drought	Moderate
Nashik	Flood & drought	Moderate
Jalna	Drought	Moderate
Gadchiroli	Drought	Moderate
Ratnagiri	Flood & cyclone	Moderate
Sindhudurg	Flood & cyclone	Moderate
Washim	Drought	Moderate
Raigad	Drought	Moderate
Chandrapur	Drought	Moderate
Gondia	Drought	Moderate
Wardha	Flood & drought	Low
Yavatmal	Drought	Low
Thane	Flood & cyclone	Low
Bhandara	Drought	Very low
Kolhapur	Drought	Very low

Source: Authors' analysis

Source: https://www.mahascac.in/uploads/reports/Revised_Maharashtra_State_Climate_Action_Plan_(2021-2030)_compressed_(1).pdf

Droughts and water crises in the last few years affecting different regions of Maharashtra

गेल्या काही वर्षात महाराष्ट्राच्या काही भागांमध्ये दुष्काळ आणि पाणी टंचाई च्या समस्या उद्भवल्या आहेत..

SCARCITY ALERTS IN MAHARASHTRA

170 of 355 talukas have reported trigger-1 level of drought assessment

- Rainfall in the state between June and Sept was 77% of normal
- Water storage in dams have declined by almost 10% compared to last year
- Water storage in Marathwada is just 27% of capacity compared to 65% at this time last year
- Thrice the number of water tankers deployed in the state compared to this time last year
- First advance estimates of kharif crop show 12% decline in cereal production and 6% decline in pulse production

RAINFALL REPORT
June to September

Solapur	Beed	Aurangabad
38% of normal	53% of normal	56.5% of normal

MARATHWADA'S BITTER-SWEET TRUTH

The severe drought plaguing Maharashtra, particularly the Marathwada region, has trained the spotlight on the region's water-guzzling sugar industry. Here is a reality check

BOON & BANE

- 25% Drought has already hit sugarcane production and there will only be enough sugarcane for 25 % existing mills in Marathwada to operate
- 32% Maharashtra accounts for as much of the country' s sugar production
- 2,500 LITRES IT REQUIRES THAT MUCH WATER TO PRODUCE JUST 1 KG OF SUGAR
- 62 of the 202 cooperative and private sugar mills in the state are in Marathwada
- Maharashtra Government has decided to ban new sugar mills
- Government to make drip irrigation, a costlier alternative to save water, compulsory for all sugar mills.
- As of now only 20 % of sugar mills in Maharashtra use drip irrigation

WATERSHED MANAGEMENT

- Maharashtra government is making urgent watershed management plans to tide over the drought. They include:
- Law to make use of recycled water mandatory in industries being brought.
- Studies to check feasibility of raising height of dams
- Desilting & deepening of lakes and water canals

WE ARE MULLING TO INITIATE LONG-TERM MEASURES LIKE INCREASING THE HEIGHT OF MIDC DAMS AND MAKING RECYCLED WATER MANDATORY FOR INDUSTRIES BY AMENDING THE MIDC ACT, 1961 — SUBHASH DESAI, Maharashtra Industries minister

Marathwada, Pune face Maha water crisis as reservoir levels plummet

SUDHIR SURYAWANSHI @Mumbai

MAHARASHTRA is facing an acute drinking water shortage with Marathwada, Pune, and North Maharashtra regions facing a difficult situation.

According to the state's water resource department, there is 8% less drinking water in the state reservoirs this year than the previous year. The reservoirs' water level was depleting speedily.

"This year, in all major drinking water supplying dams, only 34% water remained against 42% last year. The worst affected regions are Marathwada and Pune where only 19% and 33% drinking water is left in the respective regions' reservoirs. They are followed by 37% of water in north Maharashtra's major water supplying reservoirs," said a report of the state water resources department.

In Maharashtra, there are 138 major reservoirs supplying drinking water. But this year, the water level is depleting speedily in the summer. This year, the Nagpur division reservoirs have got satisfactory water storage that is 46% against 21% storage last year while Amarawati division of Vidarbha has also got 43% water in its reservoirs this year against the same percentage of water last year as well.

But badly affected regions are North Maharashtra and Marathwada regions where people go far in search of drinking water. In Marathwada, this year only 19% storage of drinking water against 40% water last year while in Pune, this year, 33% water storage against 44% last year and in North Maharashtra, there is 37% water storage against 53% last year and in the Konkan region, this year there is 42% water storage against 46% last year.

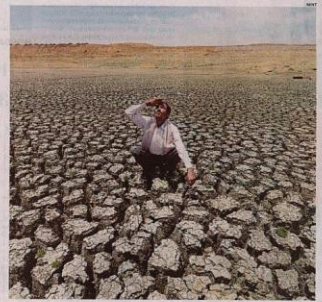
The Jayakwadi reservoir is the major source of drinking water supply in the Marathwada region and the industrial area of Sambhaji Nagar. But this year, it has got only 18% water left against 52% last year. In North Maharashtra, the Bhawali and Chanakapur reservoirs have only 13% and 12% of drinking water left respectively against 46% and 82% the previous year. In Solapur, Bhima Ujani has zero percent drinking water left compared to 22% last year.

mint LIVEMINT.COM VIEWS

THEIR VIEW

Catch the rain and save our soil: Let's solve the rural water crisis

The rejuvenation of silted water bodies is an affordable and effective way to tackle a problem in need of urgent attention



AMITABH KANT
is India's G20 Sherpa and former CEO, NITI Aayog.

Precipitated by climate change and widespread practices, India's water crisis is rapidly reaching a flashpoint. Water is essential for life, and history teaches us that civilizations have had to adapt or face dire consequences when water grew scarce. Lack of water has led to mass migrations of people and even wars over resources.

Over the past 25 years, India's drought-prone regions have increased by more than 50%, with increasing drought frequency on account of climate change. In the last 10 years, every third Indian district has experienced more than four droughts. This situation poses a significant threat to a nation where nearly half the population relies on agriculture, with most farming being rain-fed. This reliance on rain means that farmers are vulnerable to changes in weather patterns, which can threaten food security, economic stability and the livelihoods of millions.

Finding solutions to the water crisis is crucial for rural development and food security. One important point of intervention is to improve water storage and focus on replenishing groundwater. The proposal is: catch the rain—where it falls, when it falls" has resulted in projects like the Amrit Sarovar initiative, which aims to build or revive 75 ponds per district, totalling 50,000 water bodies across the country. In tandem, it encourages communities to get involved in managing their water resources.

Historically, civilizations have always settled near water sources. In rural India, farmers traditionally depended on local water bodies for both agricultural and personal use. These bodies would fill during the monsoon months and provide water throughout the year. Many of these were percolation tanks, which helped recharge the groundwater table, acting like a bank does for our savings, to be used when we need to draw upon them in times of need. However, many of these sources have been affected by silt build-up and over-extraction of water, leading to a decline in groundwater levels.

Silt build-up occurs when fertile topsoil washes away into nearby water bodies during heavy rains, reducing both soil quality and the amount of water these bodies can hold. This has worsened water scarcity in many parts of India.

Rejuvenating silted water bodies can be a cost-effective solution. The first-ever Water Body Census by the ministry of jal shakti found over 2.3 million rural water bodies in India. By focusing on larger water bodies owned by the government or communities in drought-stricken areas, we could revive over 200,000 water bodies. This could potentially provide water security to over 300 million citizens at a very low cost, funded through existing government schemes. Restoring these water bodies can have a wide-reaching impact, giving entire communities a reliable water source.

The community-centric model: A successful example of community involvement is an initiative by Niti Aayog under its Aspirational District Programme in six states. The government funded the excavation of silt in water bodies, while farmers covered the cost of transporting it to their fields. A foundation dedicated to water security supported the process, including building an open-technology platform to monitor progress, funding local NGOs to create community demand for the silt.

Farmers found such an arrangement beneficial, as silt enhances soil fertility and reduces the need for chemical fertilizers. Using natural silt instead of artificial fertilizers can lead to healthier soil and better crop yields in the long-term. In regions where silt is not fertile (Sirohi district of Rajasthan, for example), it was used for other community projects like levelling roads or building playgrounds. This model exemplifies the power of collaboration between government, local communities and civil society to solve critical issues.

Chhatarpur, located in the drought-prone Bundelkhand region of Madhya Pradesh, offers a compelling case study of this approach. This district has long struggled with erratic rainfall and low water retention capacity of the soil, severely affecting agricultural output. Its terrain and extensive deforestation exacerbate drought conditions, resulting in high soil runoff and reduced groundwater recharge. In 2022, Niti Aayog began reviving water bodies in Chhatarpur, creating additional storage for 1.5 million litres of water across 164 water bodies—which helped 182 villages and around 270,000 people.

Farmers in Chhatarpur have noticed major improvements in their water levels and crop yields, thanks to these efforts. For instance, Pramod Chirgaiya, who used 90 loads of silt from a cleaned pond on his one-acre farm, saw his income double with better harvests of tomatoes and chilies.

The government spends about ₹5 lakh to clean a water body, which greatly increases water storage and helps replenish groundwater. Farmers benefit from better crop yields and the reduced need for fertilizers that using silt assures them.

Many similar success stories across India show how community-driven water body rejuvenation can change lives.

According to a Deloitte study, the Niti Aayog initiative, which started in 2022, rejuvenated 351 water bodies, impacting over 2.2 million people in 379 villages across three states, at a cost of ₹9.3 crores. This created 3.13 billion litres of new water storage.

Other initiatives, like Gal Mukt Dharan in Maharashtra and Sujalam Sufalam Jal Abhiyan in Gujarat, also demonstrate success. These projects show that even small steps can lead to significant improvements in water availability.

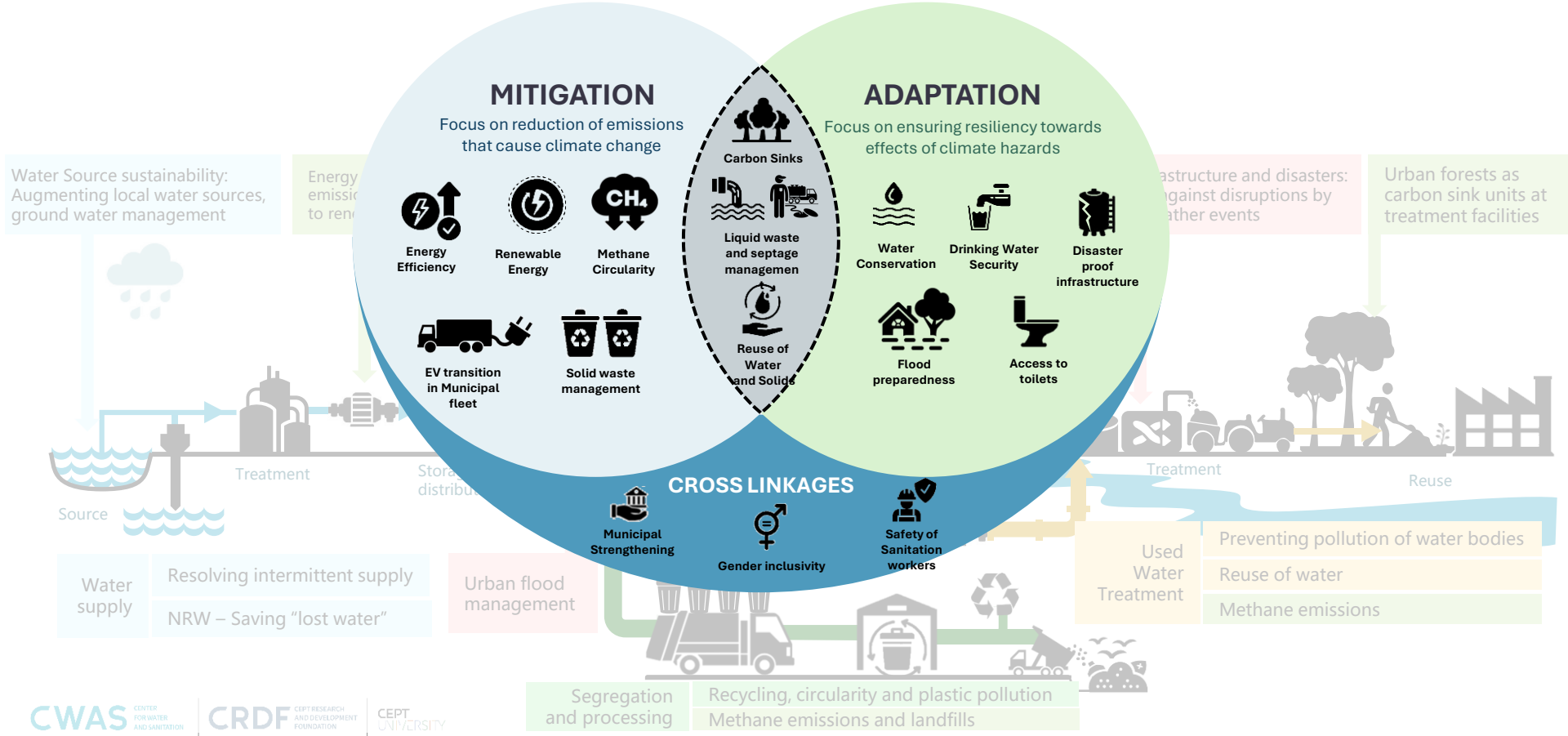
Expanding these community-focused projects could significantly improve water availability for rural areas. It is estimated that spending around ₹1,500 crore each year for five years could help cover 200,000 villages in water-stressed regions, easing the water crisis for 300 million people and boosting the income of 3 million farmers.

Rejuvenating silted water bodies is an affordable and effective way to tackle this urgent problem. India's political will is moving in the right direction, as demonstrated by the commitment to sustainable water management practices. It is Prime Minister Narendra Modi's phrase, 'Catch the rain—where it falls, when it falls,' that underpins this vision and emphasises the importance of collective action in addressing the water crisis. It's vital for everyone, across sectors and demographics, to work together to create a sustainable and thriving rural India.

These are the author's personal views.

What does climate-resilient WASH look like?

हवामान बदलाला तोंड देणारी पाणी, स्वच्छता आणि हायजिन सेवा कशी असायला हवी ?



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Water resource sustainability

जलस्रोतांची शाश्वतता

घरगुती पातळीवर आणि शाळा/संस्थात्मक इमारतींमध्ये पावसाचे पाणी साठवणे व

पावसाचे पाणी शेतजमिनींमध्ये आणि विहिरींचे पुनर्भरण करण्यासाठी

Mini-piped water supply scheme and community level purification systems

Revival of shallow wells

Emissions: “Greening” water and sanitation infrastructure for cities

उत्सर्जन कमी करणे: शहरांतील पाणी व स्वच्छता व्यवस्थेला पर्यावरणपूरक बनवणे

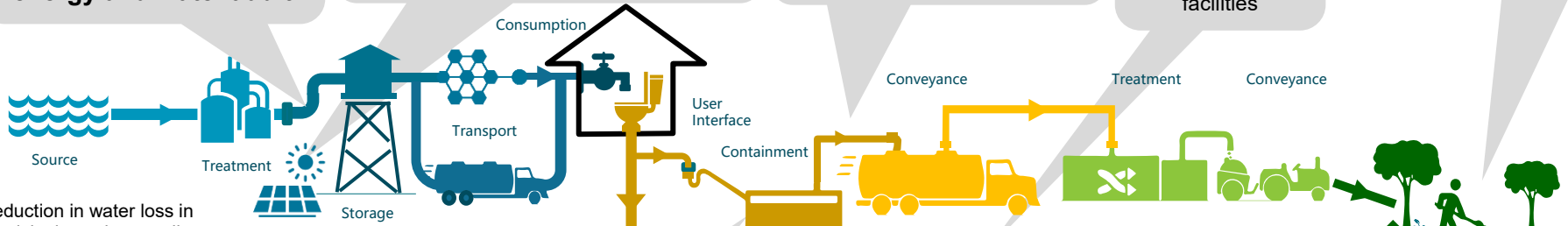
Assessment of water and sanitation services and emissions in operations – **energy and water audit**

Use of clean energy such as **solar power** for various WASH operations. Use of energy efficient machinery

Use of **electric municipal vehicles** powered by **solar energy**

Methane capture units at treatment facilities

Urban forests as **carbon sinks** at treatment facilities



Reduction in water loss in municipal supply as well as wastewater reuse will reduce overall water demand which will in turn lead to lower electricity use for extraction/pumping and heance lower emissions

Reduction in emission (methane) with treatment as well as well-functioning septic tanks with **regular delsudging**

माझी वसुंधरा #majhivasundhara

Scaling this to Maharashtra State through Majhi Vasundhara and SBM

Demonstration of renewable energy for WASH – Maharashtra

WASH सेवांसाठी शाश्वत ऊर्जा स्रोत यांची महाराष्ट्रातील उदाहरणे

- Installations at Water Treatment Plant
- Installation at Faecal Sludge treatment plant
- Installations at Centralized and Decentralized Wastewater Treatment plants

16 % Reduction in dependency on conventional energy source of municipal services

INR 60million: Projected Overall cost saving in 25 years:

Over 25 years:

Clean energy generation potential

8550 MWH

Emission reduction Potential

7,011 tons CO_2

माझी वसुंधरा #majhivasundhara

Scaling this to Maharashtra State through Majhi Vasundhara and SBM

** City population ranges between 50k – 400 K*

Satara : 30 Kw

Karad : 72 Kw

Ichalkaranji : 81 Kw

Wai : 30 Kw

Sinnar : 15 Kw

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Urban forests as carbon sinks – Nature based solutions

शहरी वन कार्बन शोषून घेतात आणि पर्यावरण सुधारण्यास मदत करतात – एक प्रभावी उपाययोजना

- The treated wastewater is used to irrigate urban forests developed adjacent to treatment facilities.
- Urban forests involve planting saplings, primarily of local indigenous varieties, on clean land generally situated close to the FSTP/STP.
- Almost **19,764 Sq.mt**. barren area developed to urban forest in all the six cites with total **10,306 tree**s planted, and **80 million liters** of fresh water has been saved.

“Disaster proofing” WASH infrastructure

आपत्ती-प्रतिरोधक पाणी व स्वच्छता सुविधा

Human Health – Floods, water contamination and diseases



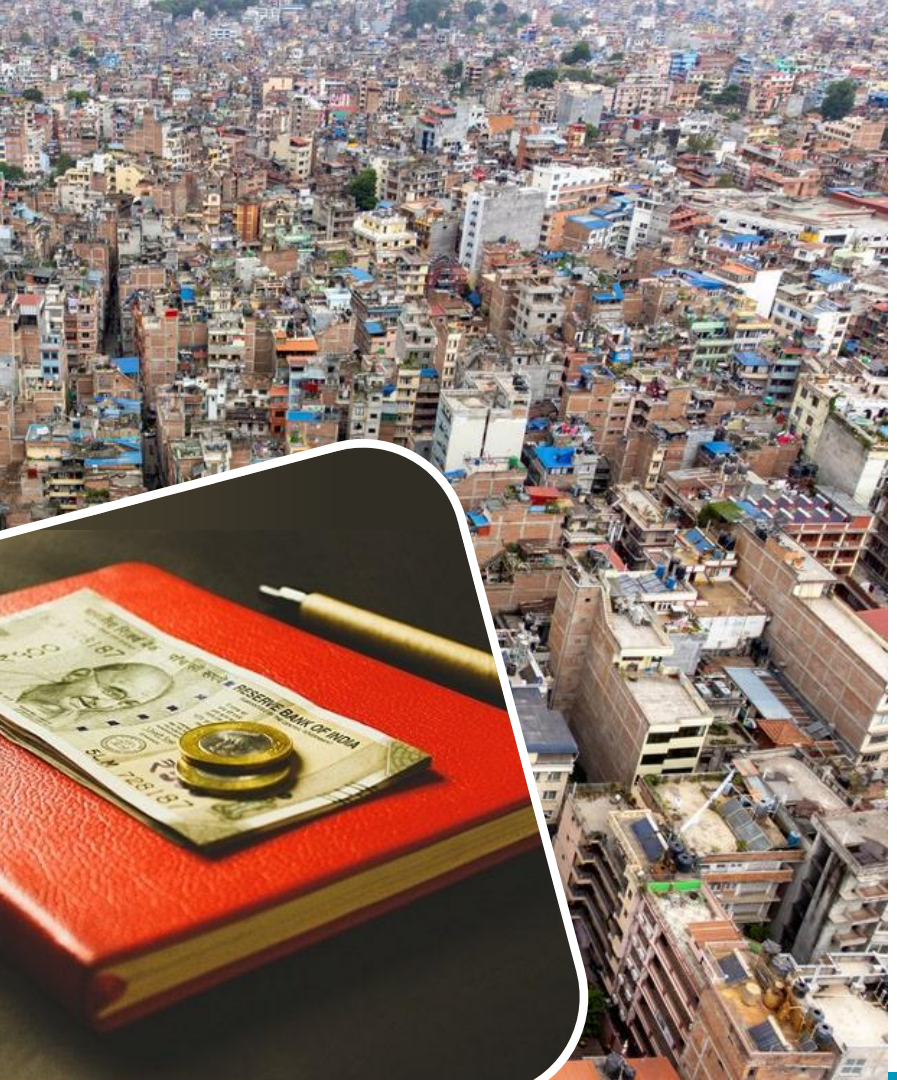
Operational disruptions – Damage to water sanitation infrastructure

Energy self sufficiency for reducing disruptions from energy grids for critical infrastructure

Electric vehicles for WASH operations - Reducing dependency on fossil fuel based energy

Flood-proofing critical infrastructure – Ichalkaranji STP on stilts

Regular and inclusive desludging services – keeping septic tanks at efficiency



Financing for Climate Resilient WASH in Indian ULBs

भारतातील स्थानिक स्वराज्य संस्थांसाठी क्लायमेट रेसिलियन्ट वॉश - वित्तीय सुविधा

Innovative financing mechanisms for Urban Infrastructure are emerging

शहरी विकासासाठी नाविन्यपूर्ण वित्तीय उपाय..

Urban infrastructure has been generally financed through public funds however, innovative financing mechanisms need to be explored for additional and more effective funding

Own sources, Transfers and programs

Taxes, fees, user charges

Public sector programs

State and Central Transfers

Grants from Finance Commissions

Philanthropic Funding, social impact investors

Private sector investment

Capital Market Borrowing

Results Based Finance

Blended Finance

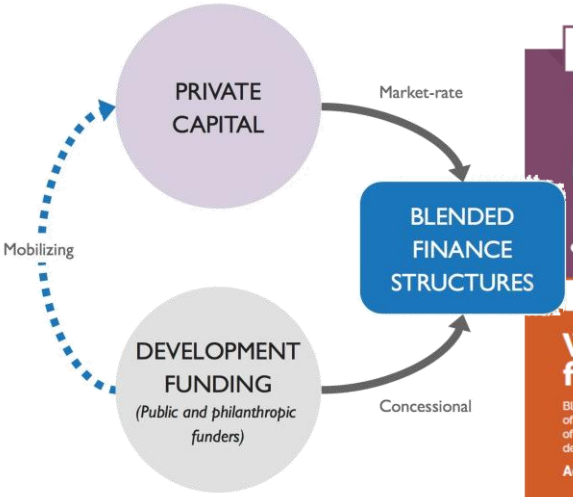
Green / Municipal Bonds

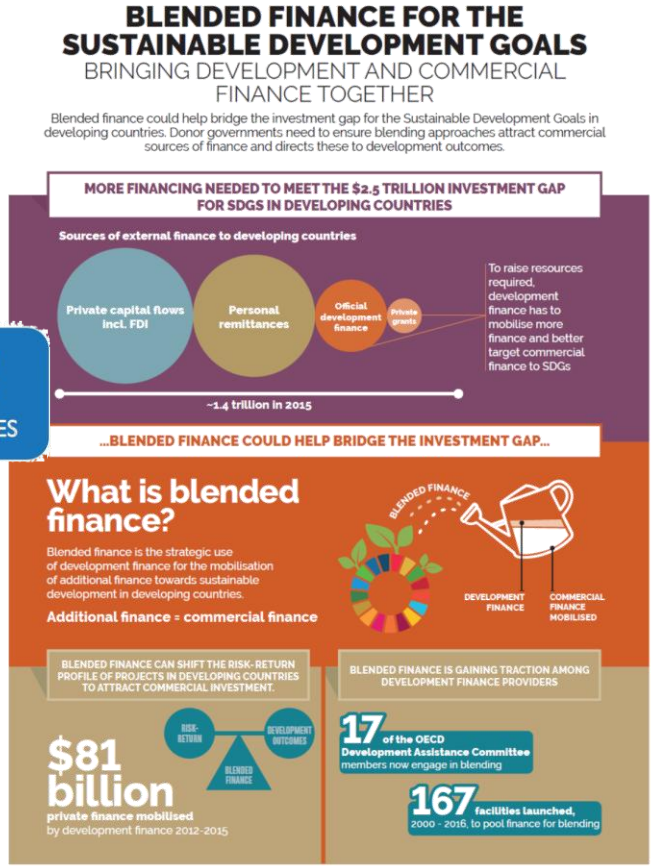
Blended finance

ब्लेंडेड फायनान्स

What is blended finance?

- "Strategic use of development finance and philanthropic funds to mobilize private capital flows to emerging and frontier markets" (OECD)
- Blended finance can help risk-return profile of projects to attract private and commercial finance to project and activities that help achieve SDGs in different sectors





Source: OECD (2018), Making Blended Finance Work for the Sustainable Development Goals, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264288768-en.

Blended Finance examples for water and sanitation

ब्लेंडेड फायनान्स उदाहरणे

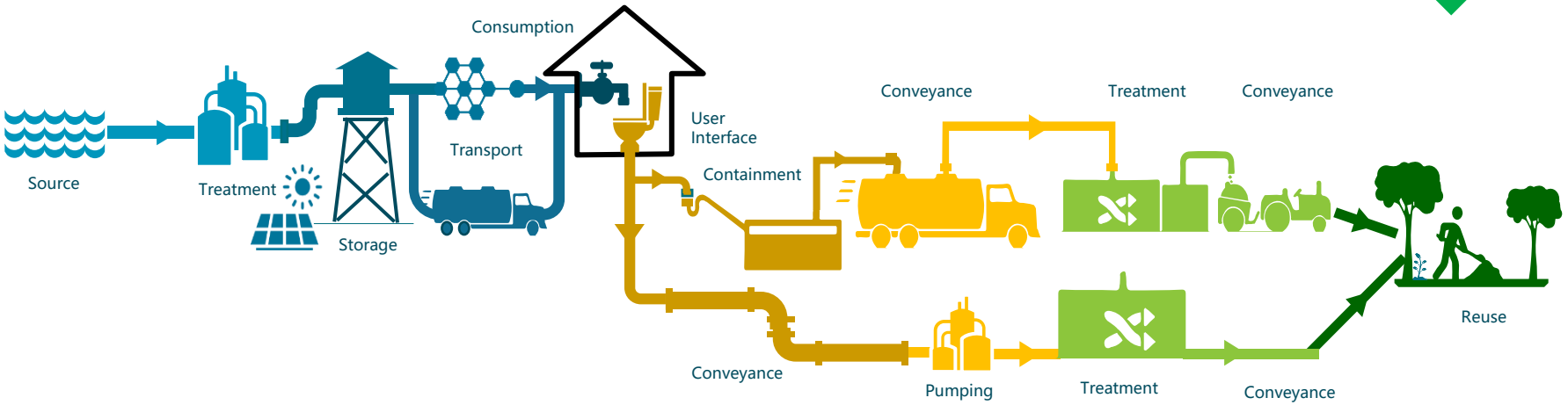
PPP for solar powered WASH infrastructure operations

Sanitation credit, Jalna

Performance Linked Annuity Model (PLAM) for scheduled desludging, Wai /Sinnar

Municipal Bonds for wastewater treatment: Metro cities in India

Reuse with PPP, private sector: Nagpur, Anjar and Gandhidham, Surat



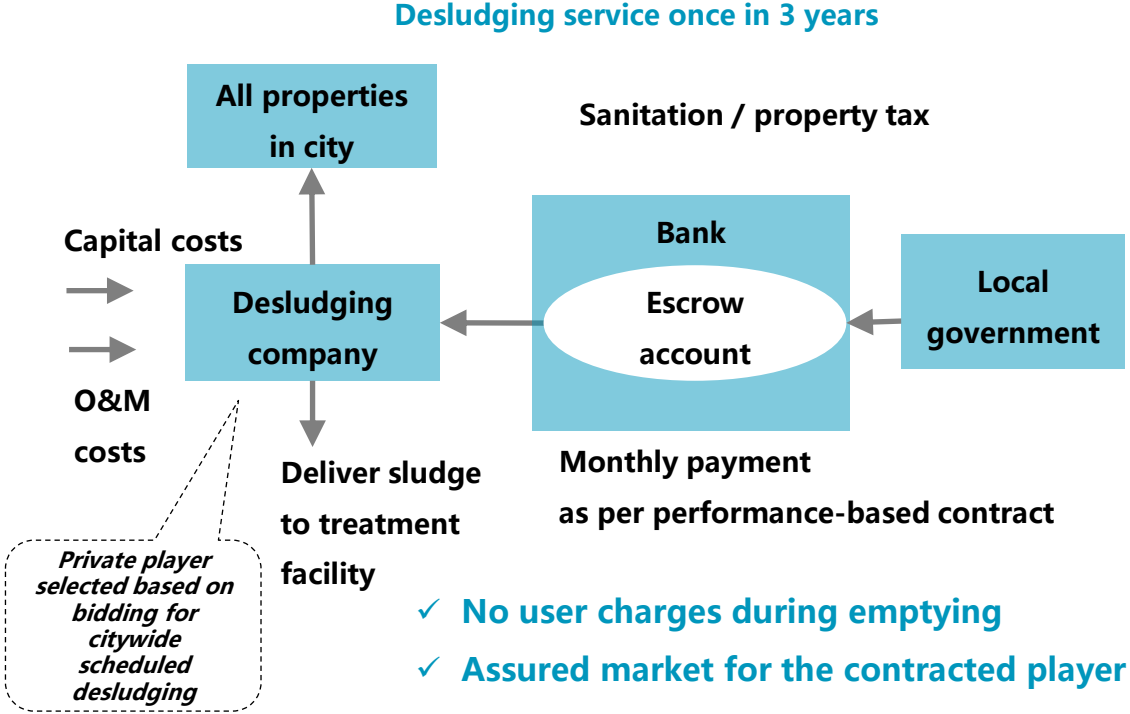
Mitigation measures

Adaptation measures

Performance linked annuity model (PLAM) for engaging private operators in scheduled desludging services in Maharashtra

महाराष्ट्रमध्ये कालबद्ध पद्धतीने सेप्टिक टँक सफाई सेवांसाठी खाजगी ऑपरेटर सहभागी करून घेण्यासाठी त्यांच्या कामगिरीवर आधारित अन्युइटी मॉडेल वापरणे

- **Lack of ULB capacity** to implement scheduled desludging
- **Hired private operator** through **transparent bidding process** wherein Private operator need to bring in trucks and manpower
- **Finance through Sanitation Tax -** Households paying small sanitation tax to finance operations instead of high emptying charges.
- **Risk coverage through Escrow Mechanism -** Local government is supposed to keep 3 month payment in the account to mitigate private operator's payment risk.



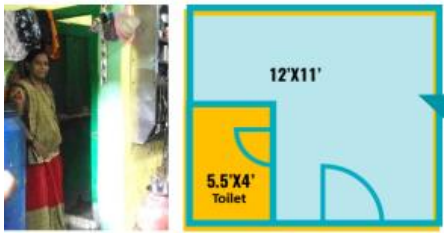
- ✓ **No user charges during emptying**
- ✓ **Assured market for the contracted player**

Access to sanitation credit for individual household toilets
वैयक्तिक घरगुती शौचालयांसाठी कर्जाची उपलब्धता

Over **300 women of self-help groups (SHGs) in the city of Jalna**, India

Banks/micro-finance institutions(MFIs) for construction of individual household toilets.

- ✓ Demand generation
- ✓ Mobilizing toilet loans from banks
- ✓ Overseeing toilet construction, and
- ✓ Ensuring loan repayment.



Impact

- Over **3500 loans** mobilized with loan amount of **USD 0.5 million (INR 5cr)**
- Based on this success, it is now being scaled up by MAVIM, a State agency with support from water.org.

Source: CWAS (2018), Mobilizing Sanitation Credit through Urban SHGs - A Case of MAVIM, Maharashtra, https://cwas.org.in/cwas-resources/mobilizing-sanitation-credit-through-urban-shgs-a-case-of-mavim-maharashtra

In India, USD 490 million mobilized through municipal and green bonds for water and sanitation projects

भारतामध्ये पाणी व स्वच्छता प्रकल्पांसाठी नगरपालिका व ग्रीन बाँड्सद्वारे ४९० दशलक्ष (= ₹४,६०६ कोटी (अंदाजे) जर $१ = ₹९४ पकडून) अमेरिकन डॉलर निधी उभारण्यात आला आहे

35 municipal bonds
by
14 Urban Local Governments
+
2 state development authorities raised pooled bonds to implement 23 WASH projects

Type of projects

Augmentation of water supply projects

Development of sewage treatment systems

FY 1997- 2017

Total **USD 288 million** mobilized for WASH projects

FY 2017-2023

USD 202 million mobilized for WASH projects + **USD 21 million** leveraged in the form incentive-based grants offered by GoI to raise bonds

128 USD million for Wastewater treatment

Type of investors

Retail investors

Institutional investors

Source: SEBI (2023), Retrieved from SEBI database, available on https://www.sebi.gov.in/

Note: INR to USD calculated as base index of that particular year

Green bonds for WASH investments in India

भारतातील पाणी व स्वच्छता प्रकल्पांच्या निधी उभारणीसाठी ग्रीन बॉंड्सचा वापर

Vadodara Municipal Corporation

Municipal Bond of INR 100 crore (FY 2023)

- **Sindhrot water supply project for** drinking water and liquid waste management
- Bid subscribed for **36 times,** Bond has **AA rating.**

Green Bond of INR 100 crore (FY 2024)

- **liquid wastewater management** - developing 2 STPS with drainage network.
- Bid subscribed for **44 times,** Bond has **AA+ Stable rating.**
- Recorded as the **first certified green municipal bond f**or sustainable WASH infrastructure.

Pimpri Chinchwad Municipal Corporation

Green Municipal Bond of INR 200 crore (FY 2025)

- Funds are dedicated to sustainable mobility, specifically the Harit Setu project in Nigdi Pradhikaran, which enhances pedestrian and cycling infrastructure
- Bid subscribed for **5.13 times**
- Bond has **AA+ Stable rating.**

Green Building Tax Rebates: PCMC offers **5% to 10% rebates** on property tax for owners who install solar panels, rainwater harvesting, or vermicomposting systems.

Pune Municipal Corporation

Municipal Bond of INR 200 crore (FY 2017)

- Major water supply projects and **24X7 supply**
- PMC and continues to integrate bonds into its **Capital Investment Plan 2030** to fund sustainable urban infrastructure.
- Bond has **AA+ rating.**

Sources: The Indian Express (2022). VMC's 'successful listing' of municipal bond now case study for US Treasury. Retrieved from https://indianexpress.com/article/cities/baroda/us-treasury-department-book-vadodara-municipal-bond-listing-bse-8247788/; The Climate Bonds Initiative (2024). Retrieved from https://www.climatebonds.net/resources/press-releases/2024/02/vadodara-municipal-corporation-initiates-india-and-asias-first, , Retrieved from https://www.business-standard.com/article/economy-policy/indore-s-first-municipal-green-bond-a-beacon-for-india-s-urban-local-bodies-123030500436_1.html

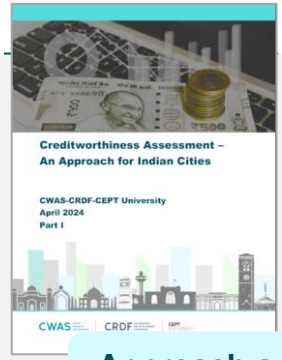
Creditworthiness assessment for cities

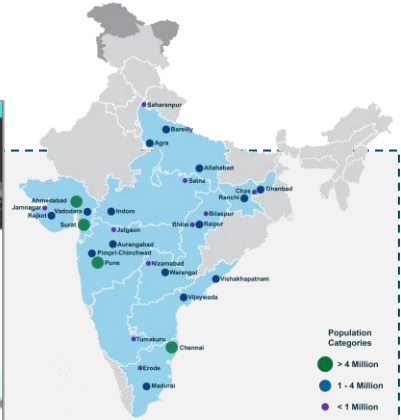
शहरांची कर्जपात्रता (क्रेडिटवर्थिनेस) तपासणी करून त्यांच्या आर्थिक क्षमतेचे मूल्यांकन

Creditworthiness Assessment

Framework for cities

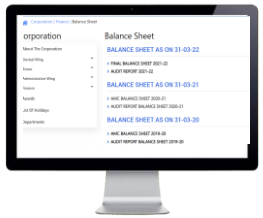
- Cities can use a **creditworthiness self-assessment tool as** a pre-cursor to formal credit rating
- Our Framework uses both **financial performance indicators and service level indicators**
- It uses **publicly available datasets**





Approach and framework for 30 Indian Cities

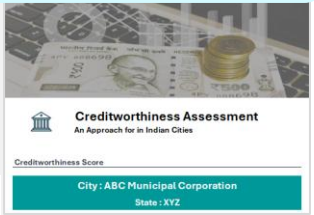
A Simple Excel Based Tool to assess creditworthiness and borrowing capacity of a city



WASH and administrative Data – Performance Assessment System (www.pas.org)

City Balance sheets, Audited account statements and City Budgets

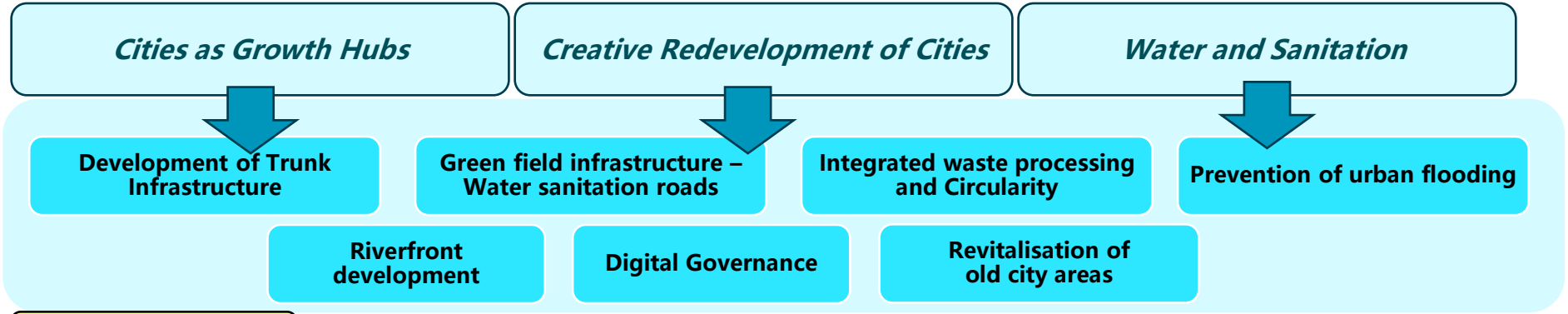
Both larger and smaller cities have 'significantly' higher potential to borrow compared to their actual borrowings



Source: CWAS (2024). Creditworthiness Assessment for Indian cities

Urban Challenge Fund – An opportunity
शहरी विकासासाठी अर्बन चॅलेंज फंड – एक महत्त्वाची संधी

Central assistance of Rs 1,00,000 crore for FY 2025–26 to 2030–31
Access funds for:



Project funding

- **25%** → Central Government
- **50%** → Market leverage - municipal bonds, bank loans, PPPs
- **25%** → State Government, ULB or additional market funding

- **Grant-based financing to market-linked,** reform-driven, and outcome-oriented urban development
- **Create bankable urban infrastructure projects**
- Challenge-based approach

Need for caution in PPPs with the UCF
UCF अंतर्गत PPP प्रकल्प राबवताना काळजीपूर्वक नियोजन आणि अंमलबजावणीची आवश्यकता

Failure of large-scale PPP water projects

While PPPs can bring private sector efficiency, innovation, and capital to public service delivery, the global experience with large-scale PPPs in the water and sanitation sector has been mixed.

Sub-Saharan Africa

- 13 out of 28 countries that implemented such partnerships experienced failures
- drivers included inadequate institutional capacity, poor project design, and issues related to tariff adjustments and affordability

The Promise of Small-Scale, Scalable Water and Sanitation Projects

LifeStraw Project in Kenya

Biosand Filter in Haiti

Solar Water Purification in India

UCF's Role in Leveraging Smaller Projects for Inclusive Growth

Increase Access for the Poor

Improve Service Delivery Efficiency

Foster Local Innovation and Ownership

De-risk Investments

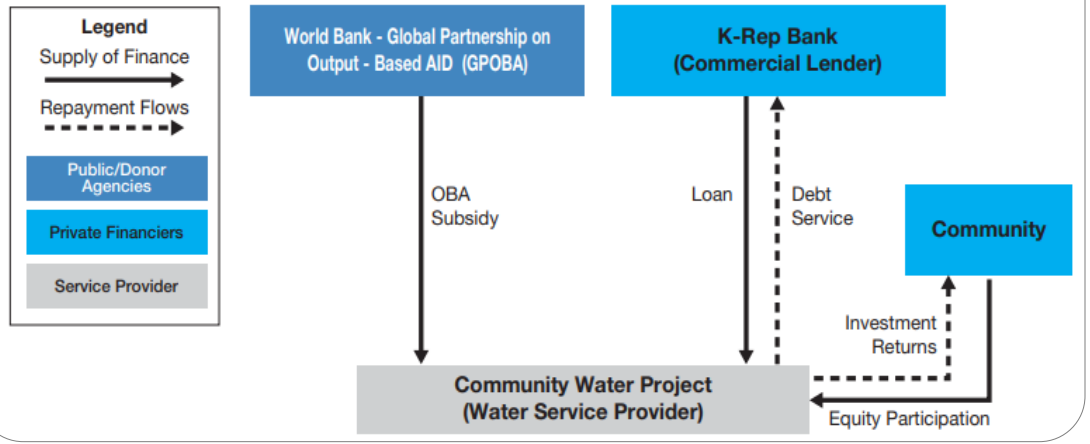
Promote Climate Resilience

Mobilising commercial finance with Results-based partial subsidies
कामगिरीवर आधारित खासगी गुंतवणूक आकर्षित करणे

- The World Bank launched the **pilot loan program in 2007 with K-Rep Bank**, a Kenyan commercial bank specializing in microfinance lending.
- The objective was to **incentivize rural and peri-urban communities to access loan financing** so as to rehabilitate and expand small-piped water systems.
- By 2012, **35 communities** had borrowed **US$3.4 million** from K-Rep Bank, raised **US $1.2 million of equity**, and accessed **OBA grants of US $2.8 million**. This enabled provision of access to 190,000 people.

Scaled up countrywide through the **Kenya Water Sector Trust Fund**

Scaling Up Blended Financing for Water and Sanitation in Kenya: Maji ni Maisha Financial Structure



Source: World Bank Group (2016), "Scaling up blended finance for water and sanitation in Kenya" in "Case studies in blended finance for water and sanitation", p. 2.

Cities are the economic base and need a share of GST

शहरे ही अर्थव्यवस्थेचा पाया आहेत आणि त्यांना **GST** मधील वाटा मिळणे आवश्यक आहे

- Vijay Kelkar highlighted the **vertical imbalance in India's federalist structure a**nd advocated for a greater share of GST resources for the Third Tier by allocating **"1/6th of this with the 3rd Tier".**
- He also highlighted **equitable sharing of the GST with the third tier** will go a long way in strengthening the fiscal base of our urban governments" (Dhoot 2024).
- The **net GST** collected in FY 2024-25 was **INR 19.5 lakh crore.** Sharing ratio of PRIs: ULB as 50:50) would amount of **Rs. 1.6 lakh crore per annum** for ULBs. This would help to nearly **double the current level of IGT allocations.**
- Local governments currently have no formal representation in GST decision-making to raise these issues..

India's cities contribute almost 60% of the GDP, yet cities do not get any benefit from their economic vibrancy

Rich cities, poor city governments!!!

Sources: Mehta M. Mehta D., Bhavsar D (2024) "Sixteenth Finance Commission and Urban Local Governments" published in Economic and Political Weekly as Commentary, Vol.37; p.17-20; Press Bureau Information, Government of India, 2025 (Link), MoHUA Budget, Demand

Strong fiscal governance leads to strong leaders!!
मजबूत आर्थिक प्रशासनामुळे सक्षम नेतृत्व निर्माण होते!!

Mumbai and New York – a comparative of financial capitals

	Mumbai	New York
Land Area Share	~0.01% of India's land	~1% of USA's land
GDP Contribution	~6.6% of national GDP	~8% of national GDP
Population	~12 million	~14 million
Budget/capita (FY25-26)	~INR 23,500	~INR 2,20,000
Executive Authority	Municipal Commissioner Elected Mayor role is limited	Mayor led Powers to change organization structure, levy and amend taxes High Global Visiblity!
Budgetary spending	900 municipal employees per 100,000 citizens Spending on core civic services: water and sewerage, road maintenance, public health clinics, garbage collection, schools, and transport services like BEST buses.	5300 municipal employees per 100,000 citizens Able to spend on people-centred services, such as education, social safety nets, childcare, and quality-of-life programs, not only civic infrastructure.

Enabling India's next :-

Dadabhai Naoroji
President, Bombay Municipal Corporation (BMC)

Sarojini Naidu
Governor of the United Provinces (now Uttar Pradesh)

Vallabhbhai Patel
President, Ahmedabad Municipality

In summary
सारांश..

Promote climate resilience for own water sources and exploring alternative sources

Focus on enhancing public funds and leveraging innovative financing mechanisms

Promote PPPs for small scale scalable water and sanitation projects for inclusive growth

Thank you
धन्यवाद

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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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