



Maximising Impact:
BLENDED FINANCE
for **WASH** in India

Knowledge Partners

Table of Contents

04 Where does WASH Financing stand?

07 Opportunities in Untapped Subsectors

08 Challenges

11 Scope of this Report

13 Mobilising capital for WASH in India: Insights from the discussion

29 Mapping Blended Finance for WASH

31 Annexure

37 Acknowledgments

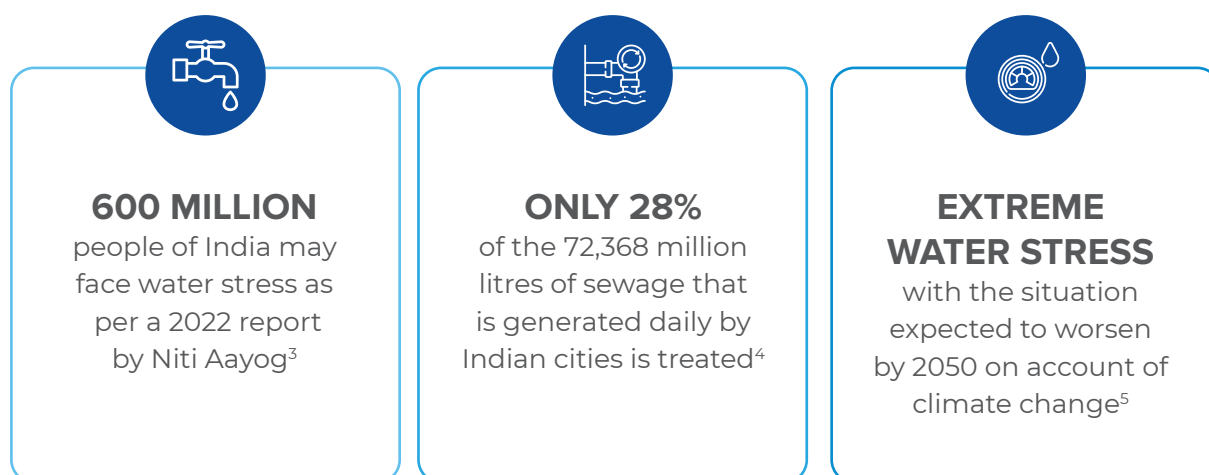


01 Where does WASH Financing stand?

One of the focus areas of the Indian government has been enabling access to safe & potable tap water supply in adequate quantity, of prescribed quality and on a regular & long-term basis to all rural households in the country. Efforts such as the Swachh Bharat Mission (SBM) (Clean India Campaign) and the Jal Jeevan Mission have contributed significantly towards the planning and implementation of safe drinking water schemes.

As per government reports, as of December 2023, out of 19.24 Crore rural households in the country, approximately 13.76 Crore (71.51%) households are reported to have tap water supply in their homes.¹ Likewise, as per a UNICEF report, the number of people without access to toilets in India, reduced significantly from 2015 to 2019².

While these figures look promising, a growing population and progressing industry merits amplified efforts to build water and sanitation infrastructure in the country that is inclusive, scalable and sustainable.



The country generates huge amounts of wastewater annually resulting in mismanagement of wastewater, lack of liquid and solid waste management, poor sanitation conditions, and poor hygiene habits⁶ especially in rural and semi urban areas.

¹ [https://pib.gov.in/PressReleaselframePage.aspx?PRID=1807831#:~:text=Composite%20Water%20Management%20Index%20\(CWMI,of%20India's%20projected%20population%20by](https://pib.gov.in/PressReleaselframePage.aspx?PRID=1807831#:~:text=Composite%20Water%20Management%20Index%20(CWMI,of%20India's%20projected%20population%20by)

² <https://www.deccanherald.com/opinion/wash-small-towns-in-india-need-sustainable-models-for-development-2695038>

³ [https://pib.gov.in/PressReleaselframePage.aspx?PRID=1807831#:~:text=Composite%20Water%20Management%20Index%20\(CWMI,of%20India's%20projected%20population%20by](https://pib.gov.in/PressReleaselframePage.aspx?PRID=1807831#:~:text=Composite%20Water%20Management%20Index%20(CWMI,of%20India's%20projected%20population%20by)

⁴ <https://www.downtoearth.org.in/news/waste/india-is-adopting-advanced-sewage-wastewater-treatment-tech-but-must-choose-those-that-best-meet-local-needs-92863#:~:text=Wastewater%20treatment%20and%20recovery%20are,Control%20Board%20in%20December%202022>

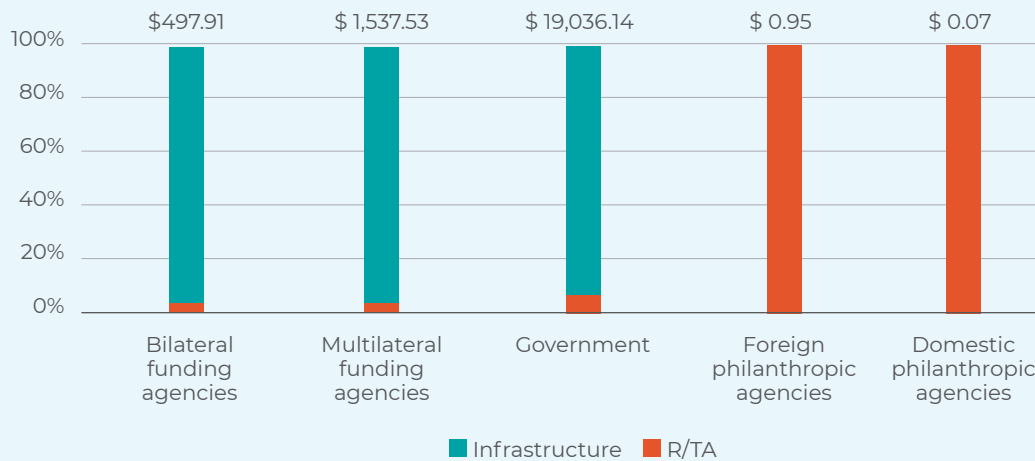
⁵ <https://www.weforum.org/agenda/2023/08/countries-extremely-high-water-stress/>

⁶ <https://www.weforum.org/agenda/2023/08/countries-extremely-high-water-stress/>

The increasing need for investments towards WASH

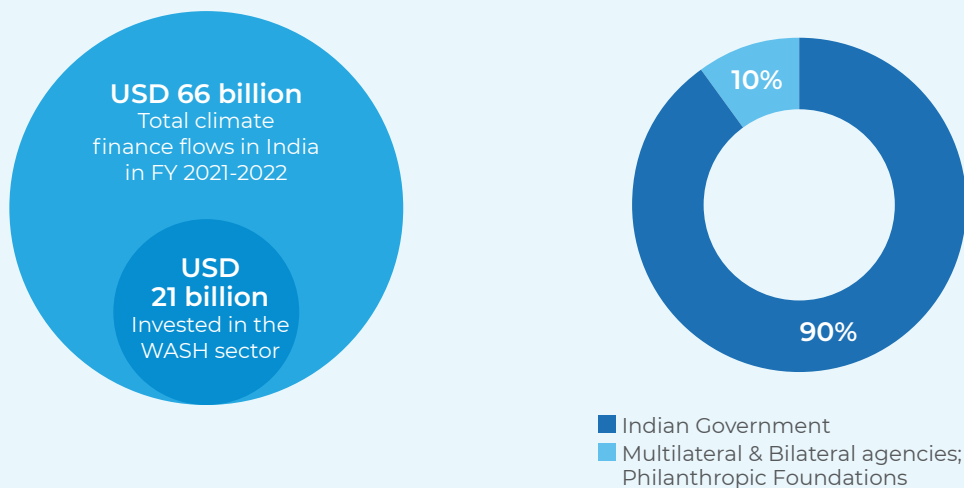
India, which has been facing a short supply of consumable, potable water as well as increasing needs to meet its sanitation challenge, requires a commensurate increase in investments. With climate change exacerbating the issue of water scarcity, there exists a strong interconnection between financing extended towards addressing climate change and that towards water and sanitation.

Figure: Share of WASH R/TA / Infrastructure funding by funder archetypes in FY 2021/2022 (Total in USD million)



Source: *Climate Finance for WASH: India - Water for Women Fund*

Total Financing Flows - WASH

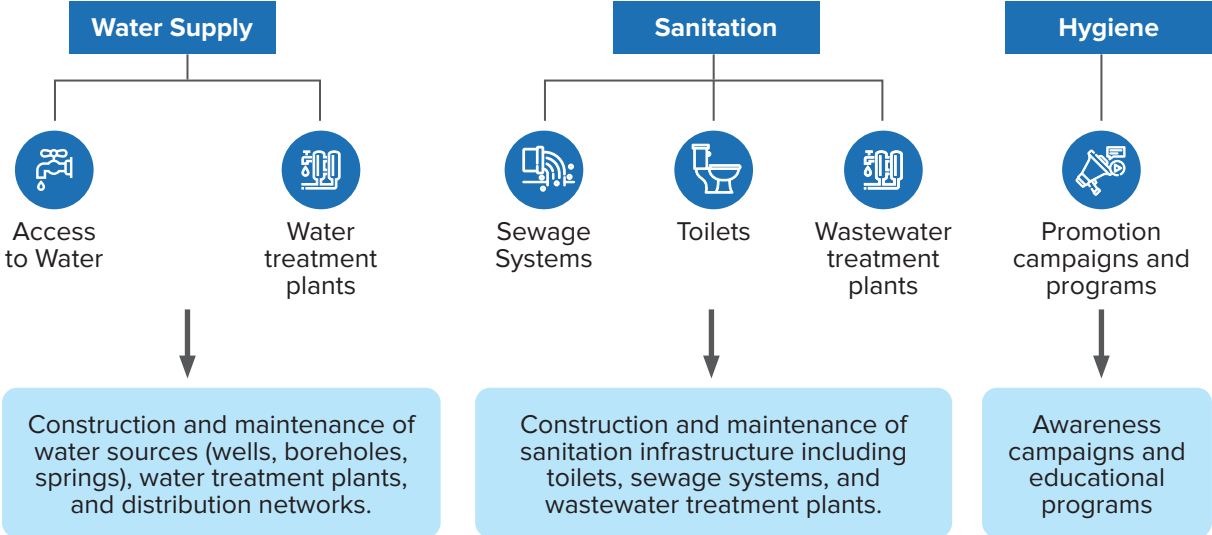


Subdued participation from multilateral and bilateral agencies and philanthropic foundations towards financing for WASH, with majority of their support being largely towards research or technical assistance activities. Public finance remained the primary source of funding.

Note: The numbers mentioned above are referenced from *Climate Finance for WASH: India - Water for Women Fund*

As per reports, India needs to spend roughly ~\$2.64 trillion to finance SDGs by 2030⁷. A radical and strategic deployment of public and private capital would be required to meet the SDG goals especially SDG 6 - 'Clean water and sanitation for all'. However, the limited participation of the private sector is on account of several challenges perceived to be associated with the WASH sector.

Figure: Key segments across the WASH value chain

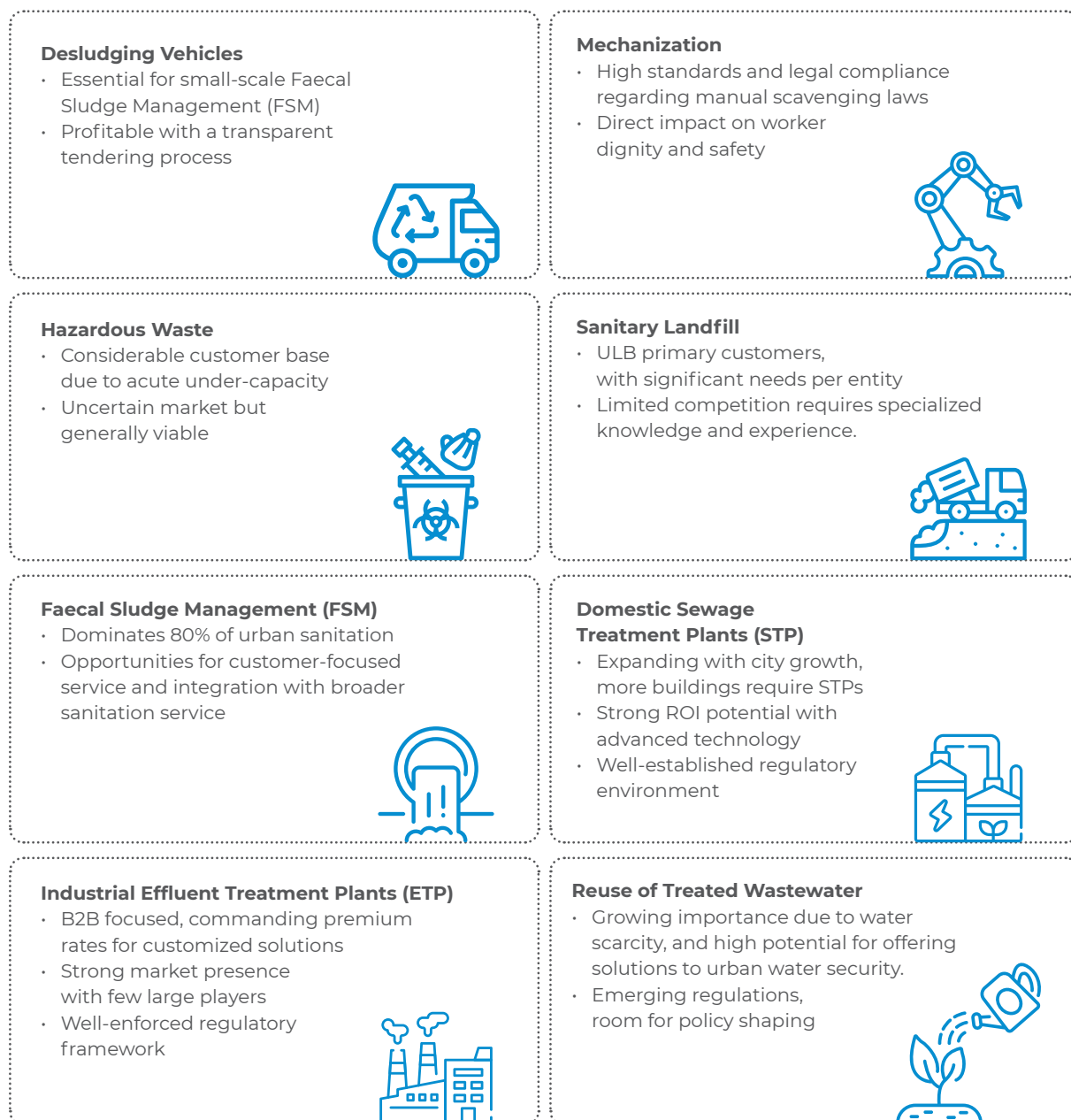


⁷ <https://economictimes.indiatimes.com/news/economy/indicators/india-needs-2-64-tn-investment-to-meet-sdgs-by-2030-report/articleshow/73492931.cms?from=mdr>

02 Opportunities in Untapped Subsectors

As seen above, there is potential for different forms of solutions to be implemented across each segment of WASH. The following section captures these potential opportunities. These insights are based on a study carried out by Desai & Associates.

Figure: Opportunities in Untapped Subsectors in WASH



Source: Desai & Associates

03 Challenges

While the previous section highlighted the opportunities that exist within the sector, we also take cognisance of the challenges that constrain the flow of private capital - capital that is key for scaling up these opportunities. These financial and operational constraints have resulted in an over reliance on public finance.



Figure: Challenges in Financing WASH

Limited presence of commercially viable business models

- Water being a public good, limits the business models which could have a commercial revenue lens associated with it. This results in limitation of a well-defined base of paying customers and a sustainable ARPU (Average Revenue Per User).
- The priority requirement of clean water and sanitation facilities lies in the underserved areas in India, which are not economically equipped to service the tariffs, thus limiting the scalability and commercial sustainability of business models.
- WASH focused solutions form an intrinsic part of climate adaptation⁸ - a space that has been perceived to be risky for commercial investments. The limited research and understanding around commercial solutions being developed that address climate adaptation, also hinders the bankability of WASH projects.

Limited documented evidence on WASH projects

- Commercial lenders have limited experience and recorded documentation related to funding WASH projects, despite WASH financing being included in priority sector lending (PSL)⁹.
- Municipal Corporations and Urban Local Bodies (ULBs) also have limited awareness and experience of deploying innovative technology solutions for waste management and recycling.

High reliance on state actors and public infrastructure

- Enabling access to clean drinking water and sanitation is a State subject in India. Execution of WASH projects requires a high degree of coordination and dependence with public infrastructure and oftentimes untenable expectations from the private sector like short delivery timeline, unrealistic penalty clauses and skewed payment terms¹⁰.
- The scale and size of WASH projects often result in delays in land acquisition and regulatory clearances making it complex for private players to plan and execute projects in a time-bound manner.
- The geographical, demographic and political diversity across the country makes it even more challenging for investors and implementing agencies to align their strategies with state and city policies.

⁸ <https://www.waterforwomenfund.org/en/learning-and-resources/resources/KL/Publications/Climate-Financing-for-WASH-India-Web-FINAL.pdf>

⁹ https://www.sa-dhan.net/wp-content/uploads/2023/05/Kp_India.pdf

¹⁰ <https://www.rti.org/insights/wash-infrastructure-private-sector-challenges-part-1>

Challenges in standardisation of impact measurement frameworks

The strong inter-relation between water, sanitation and the vagaries of climate change merits the requirement to monitor climatic impact that WASH focused solutions aim to achieve. Investors and donors seek to understand the outcomes that such projects have been able to generate¹⁰.

However, the absence of scalable, practically implementable and context specific impact measurement frameworks makes it challenging to deploy private capital at scale. This has resulted in limited availability of outcome-linked funding in WASH.

Capacity constraints of implementing organisations

- WASH projects require extensive on-ground work with communities. High efforts channelised towards field-testing, awareness programs and knowledge dissemination, results in an increased resource burden on on-ground civil society organisations.
- The growing and innovative landscape of water and climate focused solutions as well as evolving environmental and social compliance guidelines makes it more complex for implementing organisations to align their processes on-ground.

Limited visibility on revenue streams and payback periods

- The sector typically relies upon revenue from tax tariffs and payments for utilities which are often not adequate to recover the operational and maintenance costs of water and sanitation projects. Limited visibility on the source and quantum of revenue from the projects makes it difficult for service providers to raise funding.
- Small sized and lesser organised Urban Local Bodies (ULBs) and municipal corporations are constrained by streamlined processes and capacity to service payments towards partner organisations. This results in unreliable cash flow for private sector enterprises partnering with them on projects.

Operational complexities in deploying non-commercial private capital at scale

- Strict compliance requirements and regulatory constructs for international and domestic philanthropic capital limits their participation in innovative finance structures, which require flexibility in approach and execution.
- Limited visibility and discoverability of a pipeline of projects and challenges in identifying a transfer-of-ownership and exit strategies for a project, makes it difficult for philanthropic and development capital to mainstream participation in WASH.

This situation therefore necessitates a strategic approach towards pooling together different forms of capital and technical expertise, to address the requirements of the WASH value chain.

Blended finance structures, though currently bespoke in nature, could pave the way for mobilisation of such efforts.

¹¹ <https://www.waterforwomenfund.org/en/learning-and-resources/resources/KL/Publications/Climate-Financing-for-WASH-India-Web-FINAL.pdf>

04 Scope of this Report

It is with this objective - of socialising the potential for blended finance within the ecosystem of private capital providers and facilitators, that the Impact Investors Council (IIC) under the aegis of its India Blended Finance Collaborative (IBFC) initiative, facilitated a closed-door discussion of key stakeholders from the WASH ecosystem. This in-person discussion supported by USAID and in partnership with Water.org and other esteemed knowledge partners, aimed to understand on-ground insights and recommendations from practitioners, on the pathway to mainstream blended finance towards WASH.

 *The complete recording of the discussion can be accessed [here](#).*

Glimpses from the discussion





The next few sections aim to:

- a) Capture insights from the perspectives of investors, implementing agencies as well as ecosystem builders on potential opportunities for the private sector to participate in financing water and sanitation related solutions.
- b) Demonstrate by way of case studies, the different financing mechanisms that have currently been put into practice and which could be potentially replicated and mainstreamed through blended finance structures.

The insights and case studies captured in the following sections incorporate perspectives and data gathered by IIC through the workshop as well as through desktop research.



The scale of the problem is far too large for the public sector to address on its own...there are critical needs for the private sector to be involved all along the value chain - building the infrastructure, developing the products and innovations that the sector needs, delivering the services and much much more.”

Mark Tegenfelt
Office Director, General Development Office - USAID India

05

Mobilising capital for WASH in India: Insights from the discussion

As covered in the earlier section, India faces significant challenges when it comes to WASH, and a blend of capital accompanied with technical guidance is necessary to address them. Collaboration between the government, private sector, both for-profit and non-profit enterprises, financial institutions, and investors is crucial to create scalable structures for WASH solutions.

Blended finance has the potential to address the operational and financial challenges associated with WASH solutions. The catalytic capital that would be harnessed through such structures holds the potential to mitigate the gap between risk perception and risk reality of the WASH sector.

Participants during the discussion emphasised the need for a comprehensive approach to address these challenges and ensure sustainable solutions. The detailed insights and recommendations from them include:

Build the market for WASH solutions

The diverse nature of challenges within the WASH sector makes it difficult to develop comprehensive market-ready solutions. Emerging innovations aimed at addressing these challenges require support to scale and ensure sustainability throughout their value chain.



RECOMMENDATIONS

- Development of business models that demonstrate commercial viability and potential for growth. *Example: User fee collection for sanitation services.*
- Development of a sanitation or water-credits system that incentivises solutions and organisations that improve water-saving and reduce sanitation related risks - thus acting as an additional revenue stream for private enterprises.
- Development of a comprehensive impact measurement framework that goes beyond numerical metrics. Money-value of time to be considered while defining and identifying the right metrics for impact, thus attracting capital of impact investors or DFIs who come with a dual-lens of social impact and returns.

Examples of impact driven metrics



Reduction of health costs of a family

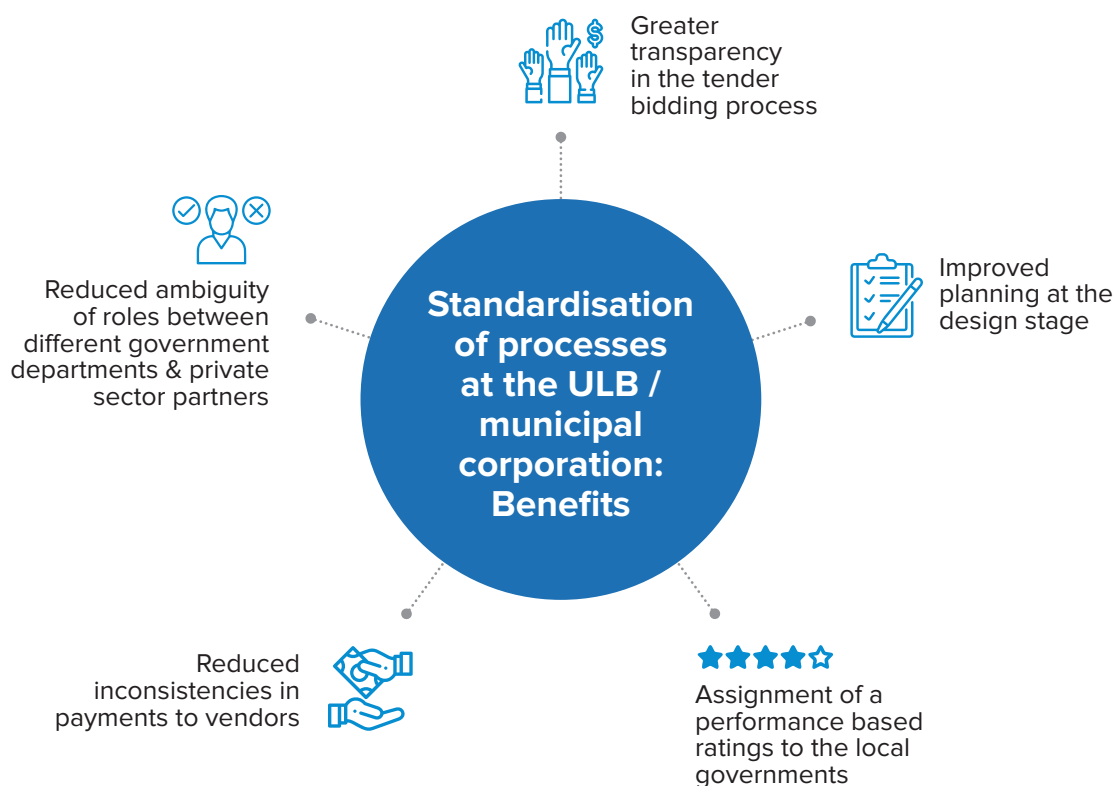


Time-saving achieved per person



The number of low-income teenage or adolescent girls accessing education

- Setting up standardised and institutionalised procedures and guidelines specifically adapted to the sectoral nuances.



Adopting a 'life-cycle approach' to financing

Young enterprises providing innovative solutions for water and sanitation, often suffer from the 'Valley of Death' challenge, where they find it difficult to raise funds in their growth stage. This stage, unlike early stages where the fund requirement is comparatively smaller, requires capital that is diverse in nature as well as high in quantum. Participants shared learnings and suggestions to build a case for SMEs to tide over the 'Valley of Death'.

Outcome funding can go a long way in spurring the latent revenues...If there is a way for us to attach a monetary value to the impact of one family getting safe sanitation (per month), then all we need is relaying the impact to an outcome funder.

Venugopal Gupta
Managing Director - Acceleration, Toilet Board Coalition

RECOMMENDATIONS

- Designing financing structures that are aligned to the life-cycle stage of enterprises; with special focus on funding that helps them scale deliberate revenues and strengthen business models.
- Pooling in capital not just in increased quantum, but also diverse in nature, post the initial grant-backed stage.
- Aligning investment thesis and asset management strategies with the underlying nature of the sector given that core sanitation assets have longer gestation periods as compared to other commercial assets.

Examples of financing solutions



Long term loans for Sewage Treatment Plants (STP) and water purification facilities



Microfinance for construction or refurbishment of toilets and setting up of water connections



Financing to SHGs (Self-Help Groups) with a longer tenure of repayment

- Considering the working capital cycle of SMEs while designing term loan and working capital products.
- Structuring small funding pools in a manner that makes them effective and viable for deployment to a young enterprise.

Differentiated strategies for Urban and Rural WASH solutions

WASH solutions would require to be designed keeping in mind the target group. Urban and rural segments stand strongly differentiated by the economic capacity of its users, infrastructure requirements, population density, ability & willingness of users to pay for solutions, and governance structures.

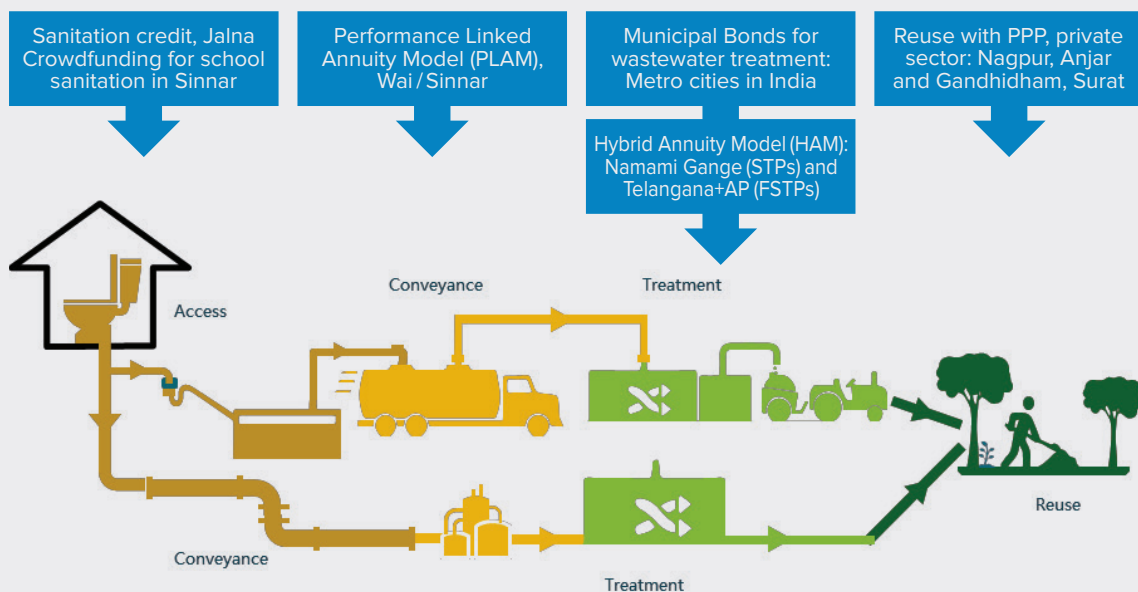
RECOMMENDATIONS

- Anchoring projects with the requirements and priorities of the local government - thus enabling a better buy-in from their side.
- Increased collaborations of industry with Research & Development laboratories, incubators and ecosystem players to design and develop technological solutions geared towards the requirements of the target demographic.
- Developing separate and focused funding programs for urban and rural geographies.
- Investing in research and data collection to understand the unique requirements of urban and rural communities.

The following case study demonstrates the impact created by an innovative intervention designed keeping the target customer in mind.

Illustration: Blended finance models across the sanitation service chain

The illustration below is shared by the Center for Water and Sanitation (CWAS), CEPT University. We can understand how blended finance models can be tailored to find their application across the entire sanitation value chain.



Source: CWAS, CEPT University access at www.cwas.org.in

CASE STUDY:

Citywide Desludging: The case of Wai & Sinnar

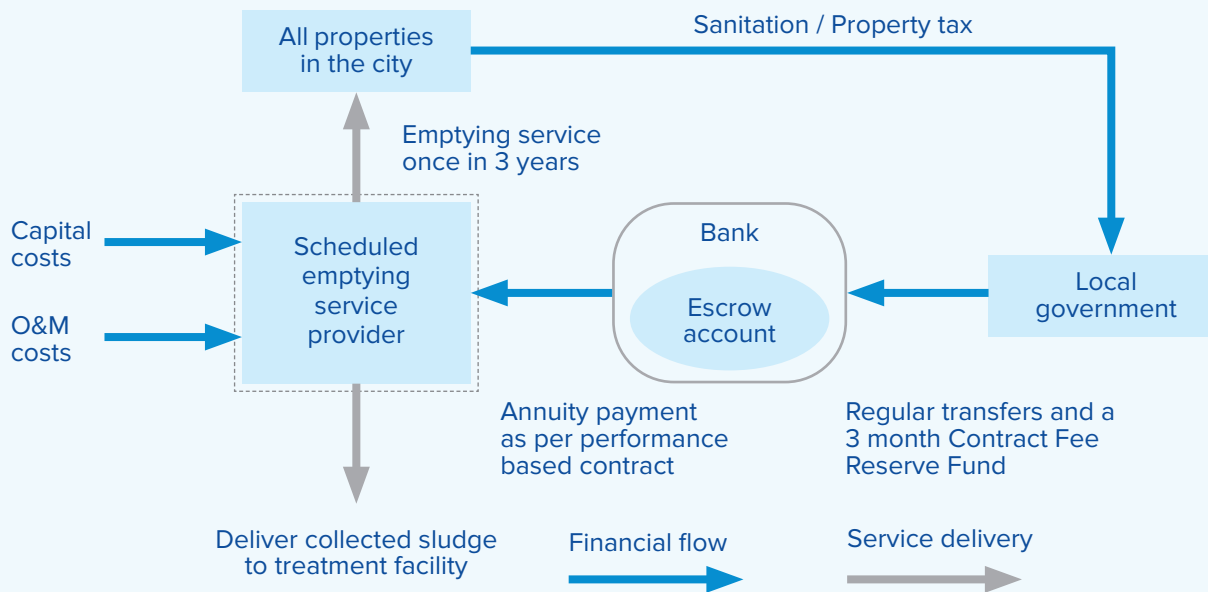
(Reference: [CWAS, CEPT University - India Blended Finance Collaborative](#))



We consciously picked up small towns in Maharashtra. The first challenge we had was that these were non-sewered cities (so we thought) why not empty a pit or a septic tank, every two years, three years, on a cycle, and pay it out of a tax?

Dinesh Mehta,
Head of Center for Water and Sanitation (CWAS)
and Professor Emeritus, CEPT University

About	<p>A public-private partnership (PPP) was established to introduce scheduled desludging as a public service for all properties, including households in slums or low-income communities in Wai & Sinnar in Maharashtra.</p> <p>The initiative was funded through a sanitation tax collected alongside property tax. It incorporated multiple credit enhancement mechanisms to mitigate the risk of payment delays to private operators.</p>		
Theme	PPP arrangement with Performance-Linked Annuity Model for Scheduled Desludging	Geography	Wai & Sinnar, Maharashtra, India
Key Stakeholders	<p>Technical and advisory support: CWAS-CEPT Funding for technical support: Bill & Melinda Gates Foundation Project Funding: Local Government</p>		
Blended finance mechanism: Performance-linked annuity model (PLAM)	<ul style="list-style-type: none">• Pay-for-results model with payments to private operators linked to the number of septic tanks desludged.• Implementation of sanitation tax to create a predictable revenue stream and cover annuity payments for scheduled desludging.• 3- year Contractual agreement between the local government and service providers.• Reserve fund created as safeguard against delayed payment. This was implemented by setting up an escrow account providing the cushion comfort for payable of three months.• Technical assistance and transaction advisory support extended to the local government.		



Impact Achieved

- 8000+ Septic Tanks served
- 14500+ properties covered
- 95% acceptance rate of services
- 44 million litres of septage treated
- Incentivisation of performance for service providers
- Better financial planning for local governments.
- Post completion of the first 3-year cycle in Wai, the second cycle was carried out by the Wai local government on their own, demonstrating the potential for self-sustaining models to come up, after receiving the initial catalytic support.

*Key Learnings

- **Close engagement between the public and private sectors** facilitated the development of standardized processes and systems, enabling successful practices to be replicated in other cities.
- The insights gained from the initiative also **served as a blueprint for policy development** at both state and national levels.
- Necessary to **understand the entire sanitation service chain** and align solutions accordingly.
- Potential to complement efforts by the Swachh Bharat Mission by **providing interventions beyond toilet construction.**
- **Align WASH linked interventions with climate-focused interventions** - Solutions that enable transition to clean energy i.e. generation of energy from waste as well as innovations such as electric desludging vehicles could become potential investable areas.
- **Demonstrate proofs of concept and evidence through pilot projects,** which could then be scaled up through collaborative efforts.

**The key learnings comprise insights from both - the case study presenters during the discussion and the author's analysis of the reference document.*



Learn more about Citywide Desludging in Wai & Sinnar through this [video](#).

Note: Refer the annexure for more such case studies

Develop the enabling infrastructure for WASH-focused solutions

Blended finance interventions would have to be structured and implemented in harmony with the enabling environment. This makes it very necessary for the overall ecosystem to be continually equipped with the acumen and capacity to participate in such transactions.

RECOMMENDATIONS

- Implementation of incubation and acceleration driven capacity-building programs for WASH focused enterprises as they transition from early stages to the growth stage.

Capacity building interventions



Create matchmaking platforms

Facilitating connections between investors and enterprises



Facilitation support

To collaborate and partner with state and local governments



- Extending grant support as a Viability Gap Funding (VGF) mechanism in the initial stages, to meet both capital and operational expenses.
- Fostering collaborations between enterprises and on-ground civil society organisations for effective deployment of WASH solutions to targeted communities.
- Equipping Urban Local Bodies (ULBs) with the know-how on innovative financing mechanisms such as blended finance.
- Introduction of incentive mechanisms to motivate stakeholders involved in WASH projects, such as performance-based remuneration schemes.
- Development of community-based water and sanitation solutions for driving behaviour change, by involving community members as catalysts-for-change.
- Identifying and nurturing the right talent pool, that can enable transfer of project maintenance to local communities.

The following case study demonstrates the impact that CSR can create through their technical and capital support, resulting in the forging of partnerships and mobilising community action.

CASE STUDY: SUVIDHA: Urban Hygiene & Sanitation Community Centre

(Reference: [HUL, India Sanitation Coalition](#))



The idea is to create a one-stop WASH solution for the community, right inside the community's heart....

Sandeep Sheth,
Manager Sustainability - Brand Unilever

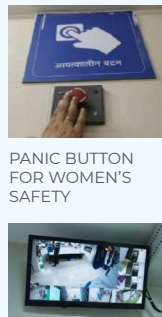
About

Suvidha is a sustainable community center which aims to address challenges of inadequate sanitation and hygiene infrastructure in urban areas of India by providing accessible and affordable facilities to marginalised communities.

The project is typically implemented in partnership with local governments, civil society organisations, CSR support and private sector entities.



TOILETS (ON SEPARATE FLOORS FOR MEN & WOMEN)



PANIC BUTTON FOR WOMEN'S SAFETY

CCTVS INSTALLED FOR SUVIDHA USERS' SAFETY



PROVISION FOR MENSTRUAL HYGIENE MANAGEMENT



WELL - LIT & SAFE TO USE AT NIGHT



SPECIAL TOILETS FOR PEOPLE WITH DISABILITY



SPECIAL TOILETS FOR CHILDREN



LAUNDRY SERVICE FOR THE COMMUNITY

HAND WASHING STATIONS



BATHING SERVICE



WATER ATM SERVICE FOR THE COMMUNITY

Source: Unilever

Theme	A CSR-funded multi-party Public-Private-Partnership (PPP) to provide water and sanitation facilities to marginalised communities through a pay-per-use model.	Geography	Dharavi, Mumbai, Maharashtra, India
Key Stakeholders	<p>Government Partner: Brihanmumbai Municipal Corporation (BMC)</p> <p>Co-Funding Partners: Unilever, HSBC, JSW</p> <p>NGO Partners: Pratha Samajik Sanstha, United Way Mumbai</p> <p>Technical Partners: EY, Waterlife, Consortium for DEWATS Dissemination Society, BePURE</p>		
Innovative Approach	<ul style="list-style-type: none"> • Participatory approach: Community participation in planning, management, and maintenance of the facilities - fostering a sense of ownership and sustainability. • Circular approach to reuse resources: Recycling and treating used-water and harvesting rainwater, reducing the adverse environmental impact from untreated wastewater. • Sustainability: <ul style="list-style-type: none"> ◆ An innovative revenue generation model such as Pay-per-use enabling economic sustainability of the initiative. ◆ Capacity building initiatives for local stakeholders to ensure long-term sustainability of facilities. • Scalability and Replicability: Due consideration paid at the design level for replication in other locations across India. 		
Impact Achieved	<p>A self-sustaining operating model developed and implemented by engaging the local community.</p> <ul style="list-style-type: none"> • Special facilities extended towards women, men, children and the specially-abled. • Enabling 420,000 people to have access to clean & hygienic toilets every year. • More than 12 million litres of water saving achieved. • 600,000 individuals educated through behaviour change program, led by a cadre of 300 women. • Creation of equitable employment opportunities, with 65% of total employees being women. 		
*Key Learnings	<ul style="list-style-type: none"> • Community participation and engagement to succeed - Local residents were consulted in the planning and design stage as well as involved in the management, and maintenance of the facilities, fostering a sense of ownership and sustainability. • Public-Private Partnerships to capitalise opportunities - It is necessary to harness the expertise and resources of both the public and private sector players, ensuring a comprehensive understanding of community needs on-ground and achieving operational efficiency. • Flexible approach - Building preparedness to be flexible in approach and navigate uncertainties and overcome obstacles. <p><i>*The key learnings comprise insights from both - the case study presenters during the discussion and the author's analysis of the reference document.</i></p>		

Note: Refer the annexure for more such case studies

Intertwining investment thesis with climate-focused investing

The strong inter-relation between climate and water, necessitates that financing WASH-centric solutions be hinged on investment thesis being developed for climate financing. This would require designing and expanding the scope of existing climate-financing structures to also include water and sanitation related projects.

RECOMMENDATIONS

- Catalytic capital providers to extend technical and advisory support to microfinance institutions (MFIs) supporting them to develop 'climate-ready' WASH financing programs.
- Extending microfinance loans to low-income households to build their resilience to flood and drought situations.
- Structuring a focused pool of funds that extends low-cost capital to MFIs and SMEs focused on climate-ready WASH solutions.
- Identifying and scaling innovative solutions that address the water and energy related challenges of water-heavy industries.
- Support innovation and growth of emerging solutions that intersect between climate and WASH. These include:



**Sewage Treatment
Plants (STPs)**



**Water Purification
Solutions**



**Fecal Sludge
Treatment Plants**



**Construction of Toilets
(with a usage-based
fee structure)**



**Renewable
energy-powered
WASH solutions**



**B2B WASH
solutions**

CASE STUDY: WaterCredit by Water.org

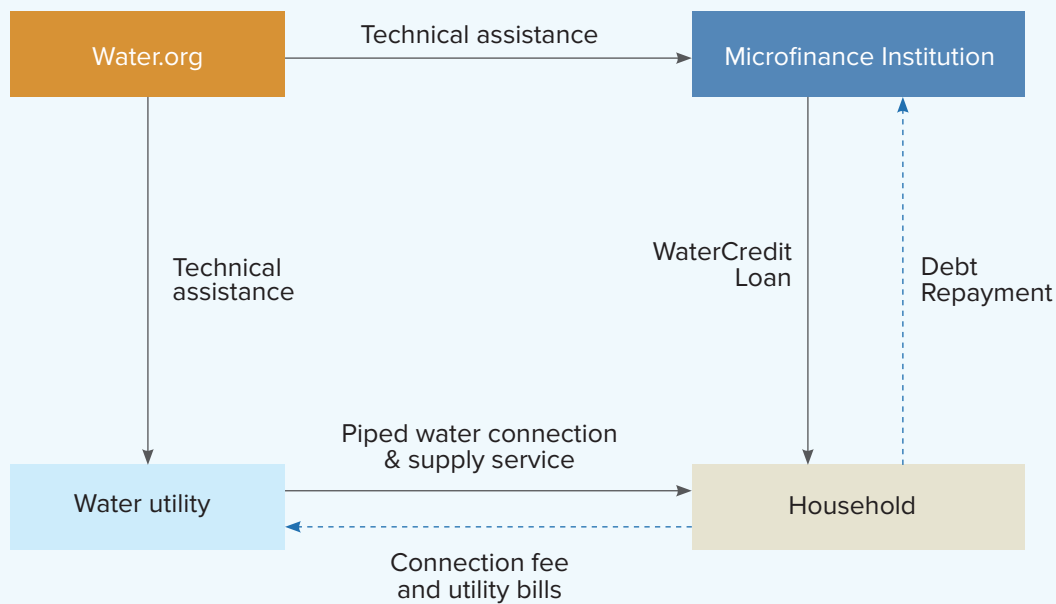
(Reference: [Water.org, Perspectives on the role of blended financing in wash - India Sanitation Coalition](#))



SMEs are the growth-engine for the economy...we are trying to solve the problem of 'ease of doing business' and 'ease of finance' for the SMEs, so that they can serve the country better.

Sudhir Arya
Financial Institution Partnerships, Director, South Asia, Water.org

<p>About</p>	<p>Loan program that enables affordable financing for WASH assets, by extending financial and technical support to local financial institutions. WaterCredit loans for water access have financed network connections, protected wells and boreholes, water pumps, rainwater harvesting systems, waterless toilets, and storage tanks. Loans for sanitation access have financed toilet and latrine construction, septic tank installation, and sewage network connections.</p>		
<p>Theme</p>	<p>Technical assistance to MFIs financing for WASH</p>	<p>Geography</p>	<p>Bangladesh, Brazil, Cambodia, India, Indonesia, Kenya, Mexico, Peru, Philippines, Tanzania, Uganda</p>
<p>Key Stakeholders</p>	<ul style="list-style-type: none"> • Grant Providers: Open Square Foundation, Michael and Susan Dell Foundation, and PepsiCo Foundation • Local Microfinance Institutions 		
<p>Approach towards financing WASH</p>	<ul style="list-style-type: none"> • Provides technical assistance to MFIs to leverage their existing infrastructure and expertise to expand access to WASH services. • The extensive reach of MFIs and innovative financing mechanisms helps to provide small loans, known as WaterCredit loans, to individuals and communities in need of water and sanitation solutions. • The use of loans instead of grants empowers beneficiaries by giving them ownership and responsibility for their WASH facilities. 		



Impact Achieved across the target geographies

- 63 million people reached
- \$5.2 billion in loans disbursed by their partners
- 90% of borrowers being women
- 98% - Loan repayment rates
- Capacity-building of microfinance organisations

*Key learnings

- Equal amounts of effort required in working and **building collaborations with all stakeholders** within the ecosystem; including both government players and SME enterprises.
- **SMEs will act as the driving force** in furthering WASH focused solutions on-ground. They need to be equipped with mechanisms for ease of doing business and ease of finance.
- **Water utilities to be supported** with technical and financial acumen for participation in innovative structures such as municipal bonds.
- **Pilot projects with local municipal corporations** to be carried out for gradually building scale of operations and mobilising finance.
- It is important to **build an exit strategy**, post initial financial support to the MFIs. Post the initial time period of 3-5 years, due consideration to be paid to the 'graduation' of the MFIs to the next level, so that they are self-sustainable.

**The key learnings comprise insights from both - the case study presenters during the discussion and the author's analysis of the reference document.*

Note: Refer the annexure for more such case studies

Build Public-Private Partnerships

With the local government being the primary procurer of WASH services, the reliance for payment of services falls on property tax and utility payments. This results in uncertainty and inadequacy of payments to the service provider. The following points suggest means through which this challenge could be tackled.

RECOMMENDATIONS

- Building engagement between the local governmental leadership and on-ground communities to ensure sustainable revenue generation for WASH services.
- Mitigating the uncertainty risk for commercial capital by leveraging catalytic capital in the form of:
 - Guarantee support
 - Participation in outcome-linked structures
 - Technical assistance to multiple stakeholders participating in the structure
- Advocacy for policy convergence and establishing sectoral interlinkages within the government, so as to develop a holistic approach by policy and regulation on water and sanitation.
- Advocacy for policy reforms to enable effective user-fee collection mechanisms.
- Facilitation of partnerships of the private sector with development finance providers by leveraging their ability to extend technical expertise, carry out convenings and extend capital support to de-risk private investments.
- Engaging private sector players as WASH project co-developers, outlining responsibilities and building accountability. This would involve execution of projects in models such as BOT (Build-Own-Transfer) and BOOT (Build-Own-Operate-Transfer) with the appropriate utilisation of human and financial capital.
- Leveraging platforms like the Social Stock Exchange (SSE) in a meaningful manner, to build discoverability of high quality non-profit and for-profit enterprises. This, in turn, will help identify the right partners and projects that align naturally with the priority areas of philanthropic capital providers.
- Providing technical support to local municipal corporations and ULBs to improve their internal processes - optimise procurement policies, improve financial health and provide timely approval for infrastructure projects.



While the for-profit sector has to understand outcome measurement and management better, the non-profit sector has to become more organised and investor-friendly to give confidence to investors and secure a pipeline of investments.

Meyyappan Nagappan
Partner, Tax and Impact Finance, Trilegal

Templatise Blended Finance structures

Blended finance structures in the WASH space have seen muted traction. However, practitioners opined that by paying attention to the implementation design, operational efficiency and economic sustainability of such structures, it would enable a gradual development of templates that could then be mainstreamed.

RECOMMENDATIONS

- Extension of advisory support to practitioners involved in developing innovative blended finance structures so as to enable them to:
 - Build partnerships and finalise term sheets
 - Optimise fundraising efforts so as to reduce the turn-around-time for pooling in commercial capital
 - Pave the pathway for generating returns on investment
- Documentation and dissemination of case studies of successful WASH initiatives to facilitate knowledge sharing and generate awareness.

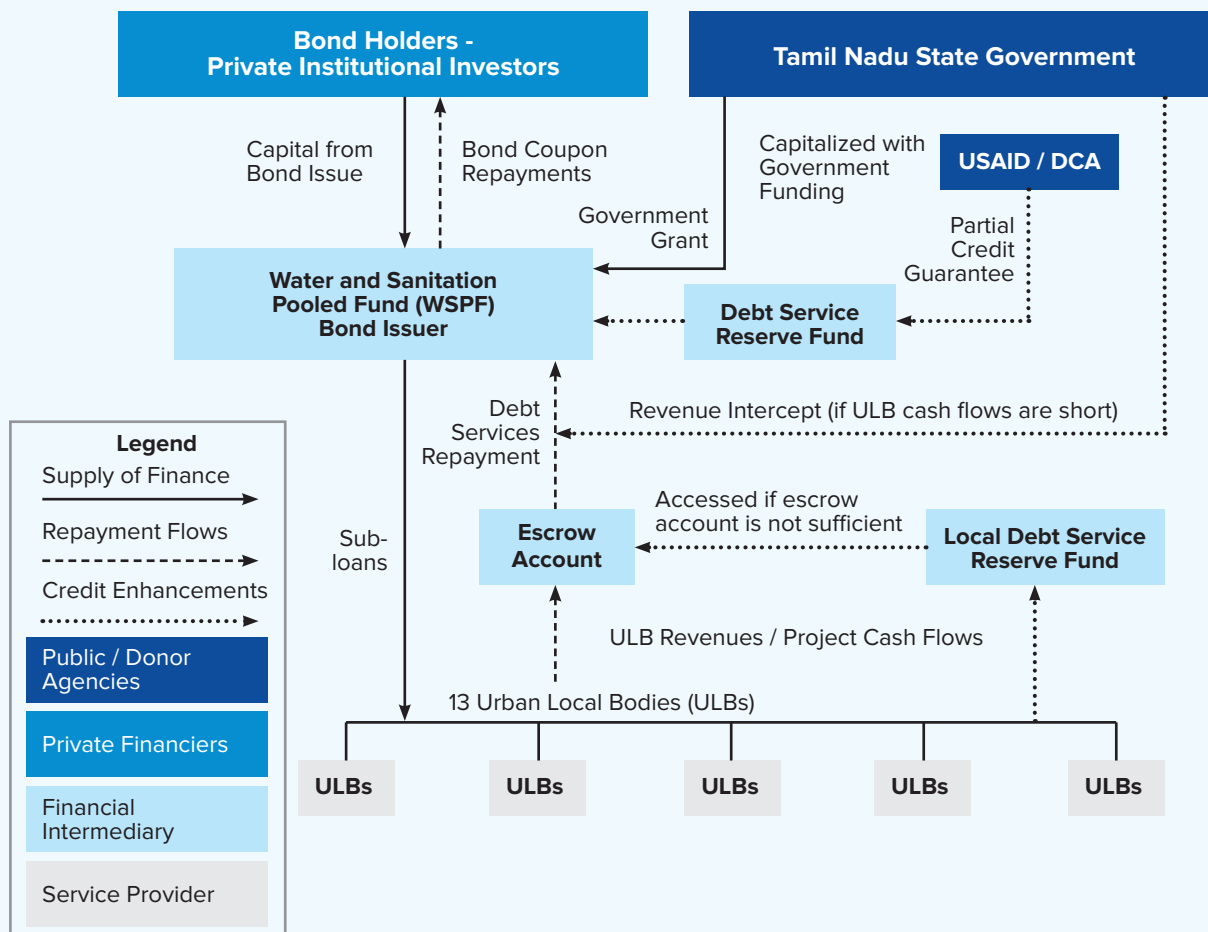
The following case study demonstrates the catalytic effect of development capital that drives the mobilisation of commercial capital at scale.

CASE STUDY:

Pooled Municipal Bond Issuance in Tamil Nadu (India)

(Reference: [World Bank](#), [World Water Council](#))

About	<p>The Water and Sanitation Pooled Fund (WSPF) was initiated by the Tamil Nadu government to provide small and medium Urban Local Bodies (ULBs) access to finance. Bonds issued by the fund were rated AA, with multiple credit enhancement mechanisms.</p> <p>The ULBs serviced their debt obligations using project revenues, municipal tariffs, and interest earned on the money deposited from connection fees.</p>		
Theme	Support ULBs to finance their water and sanitation services	Geography	Tamil Nadu, India
Key Stakeholders	Government of Tamil Nadu, USAID, World Bank, Institutional Investors, ULBs		
Blended finance mechanism	<ol style="list-style-type: none">1. Special Purpose Vehicle (SPV): An SPV was set up and the bonds were issued. The proceeds were lent to 13 small ULBs as sub-loans to finance their infrastructure projects.2. Credit Enhancement and De-risking Mechanisms:<ul style="list-style-type: none">• Put and call options on the bond - to safeguard investors' capital and provide them an opportunity for exit before the maturity period.• Debt Service Reserve Fund (DSRF) - by the Tamil Nadu government and a partial guarantee by USAID to cover the investors risk in case of default.• Establishment of an escrow account by ULBs - to service debt obligations.• Local Debt Service Reserve Fund and Revenue Interception by the government - to service interest in case revenues collected are not sufficient.		



*Key Learnings

- Multiparty pooled financing structures can enable financing for WASH, but **setting up such structures is often, time and resource-intensive**.
- Guarantees from the state government, **dedicated reserve funds to cover debt service obligations** and escrow accounts by ULBs, lower the risk for commercial investors.
- Building capacity among the borrowers and **awareness among investors** is essential for the effective usage of credit enhancement mechanisms.
- Retaining key staff members, **training existing staff** to build expertise and establishing succession plans is crucial to issue new bonds and maintain the liquidity of existing bonds.

**The key learnings are based on the author's analysis of the reference document.*

Source: *World Bank*

Note: Refer the annexure for more such case studies

06 Mapping Blended Finance for WASH

Insights from experts have demonstrated the imminent requirement for blended finance structures to be mainstreamed in order to achieve sustainable impact for WASH. The following table, conceptualised by Desai & Associates showcases the tactical financing avenues for different forms of capital - both concessional and commercial to the relevant WASH segment.



There is also a lot of potential for bill discounting and this concept called SIINCs (Social Impact INCentives) built on top of the financial performance.

This is for enterprises who are already doing their basic work in WASH but if they achieve specific social outcomes, then they will be given an incentive.

**Kartik Desai,
Founder & CEO, Desai & Associates**



Figure: Blended Finance Solutions for various WASH sectors

Instrument	Grants	Concessional Capital	Risk Mitigation	Result Based Financing
Description	Grants for technology development or testing markets can make companies investment ready and enable new solutions to come into the market.	Lower interest, zero collateral and flexible debt that helps enterprises to and build credit history and investor confidence and attract commercial debt.	Credit Guarantees can reduce loan risk and thereby induce more investments in targeted areas.	Payments are released on achievement of certain pre-determined outcomes.
Type	Technical Assistance Grants, possibly returnable in case of financial success.	Junior or subordinated Equity/Debt, impact-linked loans. Investor returns can step up in the case of strong success.	FLDGs, Pari-Passu Guarantees, insurance mechanisms, Working Capital	SIINC (Social Impact Incentives), Social or Development Impact Bond. Bill Discounting Facilities for government invoices to help working capital in face of payment delays.
Use cases and Sub Sectors	All sectors, but especially those where need for innovative products and business models is greatest.	Especially useful for capital intensive businesses across all these sectors.	Any sector with unpredictable cash flows, which reduces credit flows.	As part of Government schemes. To promote systemic and holistic thinking and solutions by focusing on multi-dimensional outcomes.
Examples	<ul style="list-style-type: none"> • Water.org provided grants and TA to MFIs to scale up HH (Household) sanitation loans. • Donors can pool funds, or work with investors who can ensure market-oriented use of grants. 	<ul style="list-style-type: none"> • Spring Health Safe Drinking Water raised concessional capital to provide clean water to villages in Eastern India. • This is particularly useful for asset-building ventures like building toilets or waste treatment facilities. 	USAID and USDFC partnered with impact NBFCs to provide partial guarantee to unlock credit for WASH enterprises.	Roots of Impact and Aqua for All have provided Social Impact Incentive payments to WASH enterprises for achieving additional social outcomes (targeting BOP, rural populations, with a gender focus).

Source: Desai & Associates

07 Annexure

The following section covers additional case studies that demonstrate innovative financing mechanisms to create impact for WASH. We take cognisance of the fact that while every case study may not represent a 'blended finance' structure; they are indicative of the level of innovation in financial structuring that is possible by leveraging both catalytic and commercial capital.

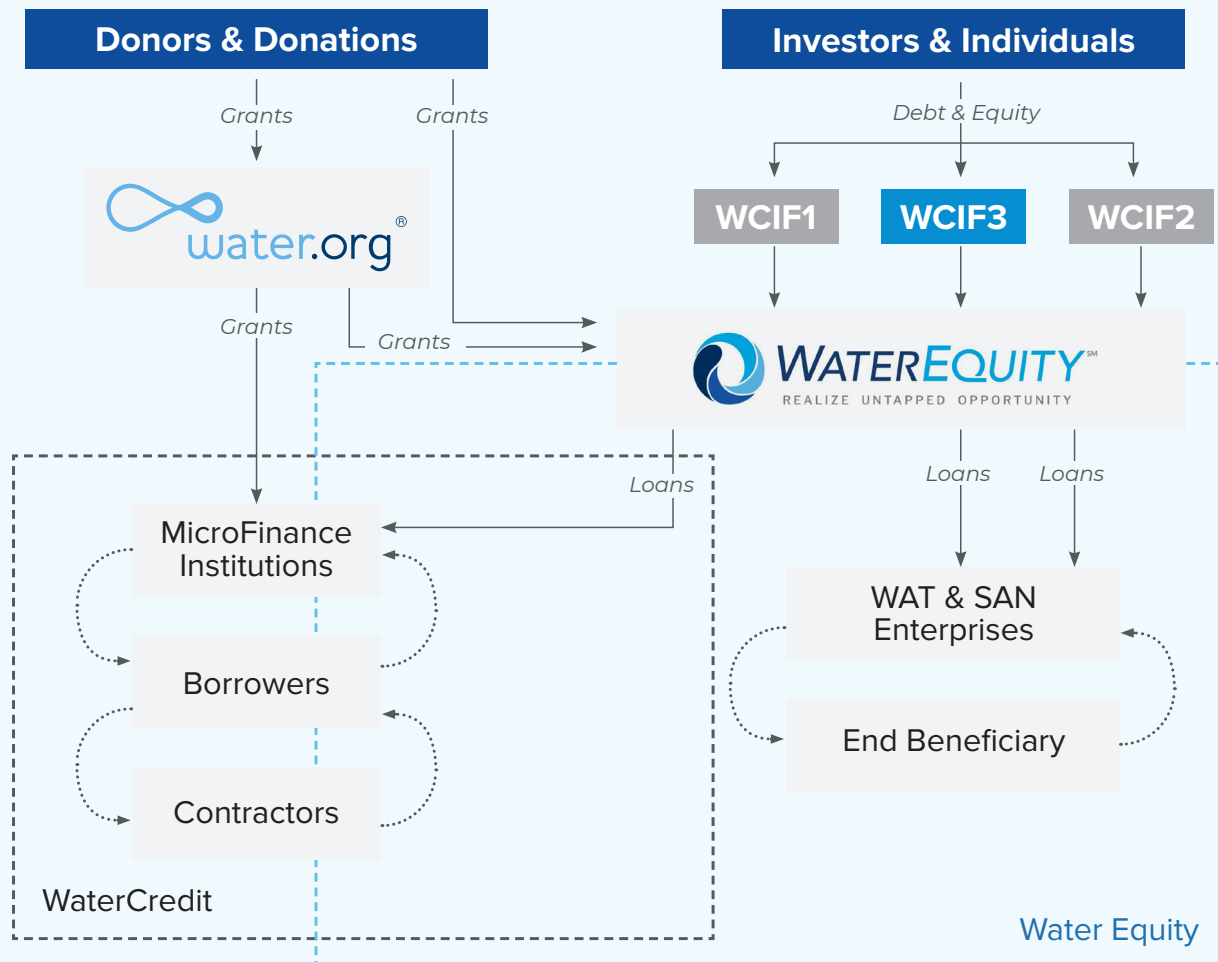
CASE STUDIES:

WaterEquity's WaterCredit Investment Fund 3 (WCIF3): A blended fund for WASH in emerging markets

((Source: WaterEquity team))

<p>About</p>	<p>In 2017, impact investor WaterEquity launched the WaterCredit Investment Fund (WCIF3), a private investment fund for accredited investors that closed two new investments in March of 2019.</p> <p>WCIF3 was the asset manager's second private investment fund working in concert with non-profit sister organization Water.org's WaterCredit initiative.¹²</p> <p>It is an innovative financing mechanism that provides debt financing to financial institutions and enterprises serving the water and sanitation needs of underserved communities in Asia over its seven-year term.</p> <p>By providing capital to financial institutions to support their local water and sanitation lending, WCIF3 empowers households to invest in water connections, toilets and other WASH solutions. The WCIF3 blended fund subsequently catalyzed scale up of the model via two larger and more commercially structured funds.</p>		
<p>Theme</p>	<p>Blended fund with multiple tiers of equity, catalytic debt facilities and first-loss guarantees to support debt financing to financial institutions and enterprises enabling access to safe water or sanitation services.</p>	<p>Size</p>	<p>50 million USD</p>
		<p>Geography</p>	<p>India, Indonesia, Cambodia, and Philippines</p>
<p>Blended finance mechanism</p>	<ul style="list-style-type: none"> • Tiered equity structure with common and preferred positions. • Risk coverage in the form of a first-loss guarantee from WaterEquity for up to \$5 million, provided to the fund. • Multiple zero-interest and low-interest secured and unsecured loan facilities to enhance the fund's core activity of expanding access to safe water and sanitation. 		

¹² <https://water.org/solutions/watercredit/>



Source: Convergence

Impact achieved across the target geographies as of September 30, 2023

- 413,210 microloans made by borrowers
- 96% of borrower end-clients are women
- 2.3 million people reached with access to water and sanitation
- By access type: 78% sanitation; 19% water; 3% both water and sanitation
- 64% of borrower end-clients earn below a living income

***Key Learnings**

- **Need to match fund structure to asset class and investor requirements.** To significantly scale up from WaterEquity's first fund 2 years prior, an \$11 million friends and family pilot fund, they needed philanthropic capital and to employ a complex structure – four loans, three partner classes, and a first loss guarantee from the sponsor.
- Once they were able to prove the model with track record through WCIF3, **subsequent WaterEquity investment funds have been less blended, more commercially structured vehicles** - such as one debt provider and one equity class. This allowed for a quicker and easier capital raise.

**The key learnings have been shared by the WaterEquity team.*

Innovative Revenue-Linked Financing model

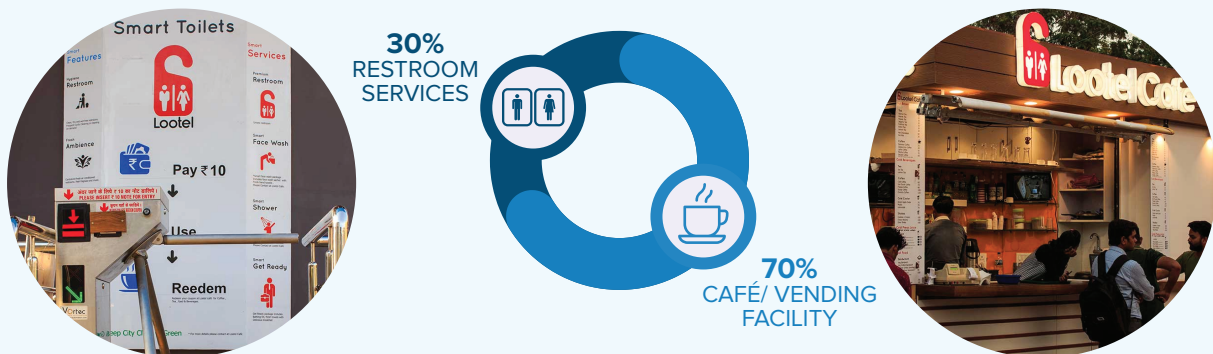
Smart Toilet Café by Lootel: The Self-Sustaining Toilet

(Source: Toilet Board Coalition)

<p>About</p>	<p>The Smart Toilet Cafe is a blend of a traditional cafe and an Internet-Of-Things (IOT)-enabled public toilet facility located in areas with high footprints. It operates by combining commercial revenue streams from the cafe business and monetising toilet facilities through usage fees.</p>		
<p>Theme</p>	<p>Blended fund with multiple tiers of equity, catalytic debt facilities and first-loss guarantees to support debt financing to financial institutions and enterprises enabling access to safe water or sanitation services.</p>	<p>Geography</p>	<p>Indore, India</p>
<p>Key Stakeholders</p>	<p>Indore Municipal Corporation: enabled access to land to set up in high footfall public areas and facilitate faster approvals of licenses</p> <p>Toilet Board Coalition: assistance through technical advisory, business model development, on-ground implementation support and mentorship.</p>		
<p>Innovative Approach</p>	<ul style="list-style-type: none"> • Revenue linked financing: 70% of revenues are generated through cafe/vending facilities and 30% through restroom services, the blend of revenues assists in maintenance or upgrades to facilities or in community development initiatives. • Public Sector Engagement: A PPP structure with the local government, ensuring faster approval of business permits & licenses. This involved defining roles and responsibilities between the private sector and local municipal corporation. • Scalability: The decentralised unit-based and franchise-based system enables toilet facilities to be installed at any location. The IOT-enabled monitoring and accounting assists in maintaining the same quality of services. 		

REVENUE GENERATION MODEL

Combination of Restroom services and Commercial vending facilities



Source: [Toilet Board Coalition](#)

Impact Achieved

- 310,000 people served since 2017, with 40% of target group being women
- Access to sanitation enabled for elderly and disabled
- 38 people employed
- Demonstration of the revenue-generating model in Sanitation

*Key Learnings

- **Collaborations need to be formalised between the ULB and private sector**, with roles clearly defined at the outset of the project.
- **Government support crucial** towards facilitation and obtaining necessary permits and licenses to decrease the risk of delays and issues throughout the project.
- **Community engagement and participation** through awareness programs vital towards fostering a sense of ownership and stewardship among stakeholders.
- Focussing on community needs with **value for money and high-quality services** plays a crucial role in overcoming user resistance to paying user fees for sanitation services.

*The key learnings are based on the author's analysis of the reference document.

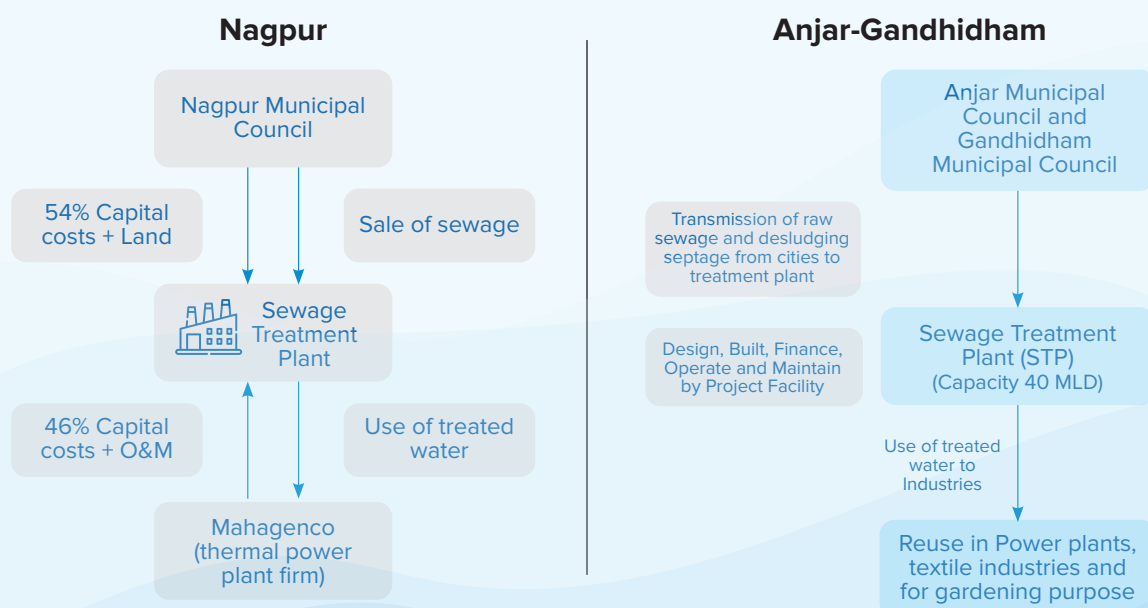
Blended finance for supporting local municipal bodies

Reuse of treated water in industries: Nagpur and Anjar-Gandhidham

(Source CWAS(2023): *Reuse of treated usedwater in Maharashtra*)

<p>About</p>	<p>A PPP structure created to build a business model for treating sewage waste collected by the ULBs. The structure enables usage of treated water in power plants, textile industries and for gardening.</p>
<p>Geography</p>	<p>Nagpur, Maharashtra and Anjar-Gandhidham, Gujarat, India</p>
<p>Key Stakeholders</p>	<ul style="list-style-type: none"> Private firms that set up STPs and reused treated water <ul style="list-style-type: none"> Mahagenco – a thermal power plant firm in Nagpur Welspun India - a textile manufacturer with one of its manufacturing facility in Anjar Local Municipal Authorities and ULBs of Nagpur, Anjar and Gandhidham Role of the private players <ul style="list-style-type: none"> Construct, operate, and maintain the STP. Purchase raw wastewater from the ULBs for an amount fixed at project initiation. Role of the local government - In the case of Nagpur, 54% of the total capital cost of Rs.193 crores and the land for STP was provided.

Illustration of the PPP Structure



*Key Learnings

- The models were successful because of mutually agreeable business models and **coordination between the government and industry.**
- The **re-treated water found its application in multiple industries,** thus addressing the challenge of shortage of freshwater.

*The key learnings are based on the author's analysis of the reference document.

Chandigarh's 24x7 Water Supply Project

(Source: *Hindustan Times*, *Delegation of the European Union to India and Bhutan*)

About

The project aimed to ensure continuous water supply to residents of Chandigarh. The initiative involves upgrading existing water infrastructure, such as treatment plants, distribution networks, and meters, to ensure uninterrupted water supply.

Geography

Chandigarh, India

Key Stakeholders

Debt provider: French financial institution - Agence Française de Développement (AFD)

Grant Provider and Technical Assistance: European Union

Local Government: Chandigarh Municipal Authority

Cost Structure

Project Cost: ₹578 crore

AFD Funding: ₹412 crore loan (15-year repayment)

European Union Grant: ₹98 crore

Contribution by Chandigarh Smart City Ltd.: ₹68 crore

Key highlights

- 24x7 water supply in the city of Chandigarh with smart water metering for 1.77 lakh connections.
- Aims to augment water resources by reducing leakage, implementing smart metering, minimising reliance on groundwater, and monitoring energy consumption closely.
- Women-led project who will man 20% to 50% of posts at every level, right from the operator to the managerial cadres.
- Repayment of loan to be from the revised monthly bills of residents.

Acknowledgments

The Impact Investors Council (IIC) would like to extend its sincere gratitude to the esteemed speakers and participants who shared their invaluable insights during the course of the in-person discussion. Their thoughts have brought immense value towards demystifying the WASH sector and identifying tactical strategies for implementing blended finance structures across the sector.

We are thankful to Mr. Mark Tegenfelt, Office Director, Gen. Development Office - USAID India, Sajid Amit, Executive Director, Bangladesh, Water.org, Sudhir Arya (sarya@water.org), Director, Financial Institution Partnerships, South Asia, Water.org, Dinesh Mehta (dineshmehta@cept.ac.in), Professor Emeritus, CEPT University and the Head of Center for Water and Sanitation (CWAS), Sandeep Sheth, Manager Sustainability, Brand Unilever, Venugopal Gupta, Managing Director – Acceleration, Toilet Board Coalition, Kartik Desai (kartikeya@desai-associates.com), Founder & CEO, Desai & Associates, Meyyappan Nagappan (Meyyappan.N@trilegal.com), Partner, Tax and Impact Finance, Trilegal for their support and inputs towards the successful conduct of the workshop. Their perspectives and exemplary case studies have helped shape the insights put together through this white paper.

We are thankful to the team at Water.org - Manoj Gulati, Regional Director, South Asia and Rohit Dhanda, South Asia Portfolio Lead - Capital Management for their continued support towards conceptualising the workshop. We would also like to extend our gratitude to the team at Desai & Associates - Aashir Suthar (aashir.sutar@desai-associates.com), VP and Principal - Innovative Finance, Viyona Mohan (viyona.mohan@desai-associates.com), Manager, Climate Finance and Sujay Dhanagare (sujay.dhanagare@desai-associates.com), Senior Associate. The white paper had greatly benefitted from their contribution and insights.

We are thankful to Apoorv Shukla (ashukla@usaid.gov), Asia Innovative Finance Advisor and Satish Menon (smenon@usaid.gov), Innovation and Partnership Lead, at USAID, India for their continuing support towards IIC's IBFC initiative and this white paper.

The authors extend their gratitude to the IIC team – Girish Aivalli, CEO, Ranjna Khanna, Sr. Director - Programs, Neha Bhatnagar, Vice President - Partnerships, Esha Saini, Assistant Manager - Partnerships, Sonali Singh, Manager, Research & Programs, Rehaan Gulati, Intern and Riddhima Sharma, Intern for their support towards compiling this report.



Authors

Divya Pinge, Head of Research
divya.pinge@iic.in

Varun Reddy, Assistant Manager, Research & Programs
varun.reddy@iic.in

Disclaimer

Data and Information in this report are made available in good faith with the exclusive intention of helping market and ecosystem players, policymakers and the public build a greater understanding of the sector. The data is collated from sources believed to be reliable and accurate at the time of publication. Readers are urged to exercise independent judgement and diligence in the usage of this information for any investment decisions.

All trademarks and logos belong to their respective owners, and their inclusion in this report is not intended to infringe upon any intellectual property right.

The images used in this report are authorised for usage and are strictly for illustrative purposes.

