

Click on relevant pages

Page No. 4,

Page No. 20,

Page No. 22,

Page No. 39,

Page No. 53



**IHWASH**

Supported by USAID



# Roadmap for Promoting Innovative Solutions in WASH Sector



**National  
WASH INNOVATION SUMMIT**

*Enabling Innovation Ecosystems for WASH*

20<sup>th</sup> November, 2018 | New Delhi



## The Summit Logo

The Summit logo was designed keeping in mind the theme of the Summit, and its various session objectives i.e. Enabling Innovation Ecosystems for Water, Sanitation and Hygiene (WASH).

The light bulb has long been used as a symbol of innovation, denoting the origination of a smart idea, the sudden flash of understanding or insight into how to achieve something - often in a new, different and pioneering way. The bulb here signified the innovative ideas providing WASH solutions.

The drop of water with hand inside the bulb symbolizes clean water, good sanitation and hygiene practice. The hand also denotes innovations, which are man-made.

The three colour bands outlining the bulb in Blue, Orange and Green signify Water, Sanitation and Hygiene, respectively. These are the colours officially used to depict WASH icons as well.

## Roadmap for Promoting Innovative Solutions in WASH

National Institute of Urban Affairs (IHUWASH Project), 2019

Supported by USAID

USAID's Urban WASH Alliance Partnership Program

AID-386-F-16-00010

## Year of Publishing

2019

## Graphic Design

Deep Pahwa, Devender Singh Rawat, Bhavnes Bhanot

## Disclaimer

*This document is made possible by the support of the American People through the United States Agency for International Development (USAID). The contents of this document are the sole responsibility of NIUA/ its partners and do not reflect the view or position of USAID or the United States Government.*



# National WASH INNOVATION SUMMIT

*Enabling Innovation Ecosystems for WASH*

20<sup>th</sup> November, 2018 | New Delhi

## Roadmap for Promoting Innovative Solutions in WASH Sector

Supported by USAID  
USAID's Urban WASH Alliance Partnership Program  
AID-386-F-16-00010



WATER



SANITATION



HYGIENE

IHWASH 2019



# ABBREVIATIONS

## A

---

- AIC** · Atal Incubators
- AIM** · Atal Innovation Mission
- AMRUT** · Atal Mission for Rejuvenation and Urban Transformation
- ANIC** · Atal New India Challenge
- AOR** · Agreement Officer Representative
- ATM** · Automated Teller Machine

## C

---

- CapEx** · Capital Expenditure
- CEO** · Chief Executive Officer
- CSR** · Corporate Social Responsibility
- CURE** · Center for Urban and Regional Excellence

## D

---

- DIB** · Development Impact Bonds

## F

---

- FMCG** · Fast-Moving Consumer Goods
- FGD** – Focus Group Discussions
- FSM** · Fecal Sludge Management

## H

---

- HUDCO** – Housing and Urban Development Corporation

## G

---

- GDP** · Gross Domestic Product
- GIS** · Geographic Information System
- GITS** · Geetanjali Institute of Technical Studies
- GoI** · Government of India
- GoK** · Government of Karnataka

## I

---

- IDSMT** · Integrated Development for Small and Medium Towns
- IEC** · Information, Education and Communication
- IHHL** · Individual Household Latrines
- IHWASH** · Innovation Hub for Urban Water, Sanitation and Hygiene Solutions

## J

---

- JICA** · Japan International Cooperation Agency
- JnNURM** · Jawaharlal Nehru National Urban Renewal Mission

## M

---

- MCC** · Mysuru City Corporation
- MCF** · Municipal Corporation of Faridabad
- MoHUA** · Ministry of Housing and Urban Affairs

## N

---

- NGO** · Non-Governmental Organization
- NIE** · National Institute of Engineering
- NITI** · National Institution for Transforming India
- NIUA** · National Institute of Urban Affairs
- NSDC** – National Skill Development Corporation
- NULM** · National Urban Livelihoods Mission

## O

---

- ODF** · Open Defecation Free
- OpEx** · Operational Expenditure

## P

---

- PMC** · Project Management Consultants

## S

---

- SAAP** – State Annual Action Plan
- SBM** · Swachh Bharat Mission
- SCM** · Smart Cities Mission
- SDG** · Sustainable Development Goals
- SME** · Atal Incubators
- SPV** · Special Purpose Vehicle
- SWM** · Solid Waste Management

## U

---

- UCCI** · Udaipur Chamber of Commerce & Industry
- ULB** · Urban Local Body
- UMC** · Udaipur Municipal Corporation
- USAID** · United States Agency for International Development

## W

---

- WASH** · Water, Sanitation and Hygiene

# CONTENTS

---

ABBREVIATIONS	2
CONTENTS	3
ACKNOWLEDGEMENT	4
NATIONAL WASH INNOVATION SUMMIT	6
EXECUTIVE SUMMARY	6
RECOMMENDATIONS	9
INAUGURAL SESSION	12
THE IHUWASH ECOSYSTEM	18
SUMMIT SESSIONS OVERVIEW	19
TECHNICAL SESSION I	20
IHUWASH ACCELERATOR	24
TECHNICAL SESSION II	26
AMRUT TECHNOLOGY CHALLENGE	30
TECHNICAL SESSION III	32
GLOBAL HANDWASHING DAY CELEBRATIONS	36
TECHNICAL SESSION IV	38
WASH ECONOMY STUDY IN IHUWASH PROJECT CITIES: FARIDABAD, UDAIPUR AND MYSURU	42
SPECIAL ADDRESS	44
SUMMIT FOLLOW UP MEETING	47
SPEAKERS AT THE SUMMIT	50
MEDIA OUTREACH	58



Mr. Hitesh Vaidya  
Director, NIUA

## ACKNOWLEDGEMENT

India is developing an appetite for innovative solutions in the urban sector. This thrust is due to the various efforts and missions by the Government of India, and its Ministries including Ministry of Housing and Urban Affairs (MoHUA) and institutions like National Institute of Urban Affairs (NIUA) and National Institution for Transforming India (NITI) Aayog; to find innovative solutions to address issues of the Indian urban sector. These innovations are not restricted to just technology but also cater to business models for sustainability, behavioral change using latest tools of change such as Information, Education and Communication (IEC). This augments awareness among communities; demonstrated by various international agencies working in the country. Private Sector is also increasingly playing an important role in addressing WASH related issues through its Corporate Social Responsibility (CSR) fund and investments in the sector. In addition, through promotional activities by the Government; many startups are venturing into the WASH sector and coming up with innovative solutions.

The Innovation Hub for Urban Water, Sanitation and Hygiene Solutions (IHUWASH) supported by United States Agency for International Development (USAID), in association with Ennovent; supports the development of innovative scalable solutions for urban WASH in India within the national, state and city framework. IHUWASH has demonstrated a proof of concept to source, incubate and upscale innovations at city level by engaging key stakeholders such as the urban local bodies, industries, academia and civil society. The National WASH Innovation Summit 2018 organized under the IHUWASH project highlighted this proof of concept being implemented in three cities Faridabad, Udaipur and Mysuru in India for cross-learning and exchange of knowledge between various stakeholders on a national platform.

At the outset, we would like to congratulate everyone who has contributed towards making the Summit a success. NIUA, being an integral part of the MoHUA has always received encouragement for its initiative influencing inclusive development of cities. We sincerely thank Shri. Hardeep Singh Puri, Honourable Minister of State (Independent Charge), MoHUA, Government of India (GoI) for addressing august gathering in the inaugural ceremony and setting the context for the WASH Innovation Summit. We extend our heartfelt gratitude to Mr. Mark White, Former Mission Director, USAID, India who shared an insightful address with everyone, highlighting the efforts of USAID in improving the WASH sector of India. A special thanks to Shri. Anjum Parvez, Secretary, Urban Development Department, Government of Karnataka; for accentuating the key concerns of urban development of India with the audience.

To cover various aspects of fostering innovations, the Summit included four engaging Technical Sessions, chaired by eminent experts of the sector and accomplished panelists. We thank each of the session chairs and the 21 panelists who shared, discussed and enriched the Summit with their knowledge, and provided significant recommendations for future course of action. In order of the Sessions chaired; we would like to thank Mr. Vinod Shankar Chief Operating Officer, Ginserv, Mr. Mark Peters WASH Team Lead, USAID, and Ms. Arundhati Das Manager, RTI International for conducting their respective sessions with a lot of enthusiasm and insight. We would also like to acknowledge Mr. V.K. Madhavan, Chief Executive Officer, WaterAid for his special address highlighting the role of innovations for transforming the Urban WASH Sector. Likewise, we are grateful to Ms. Ishita Agarwal, Manager, NITI Aayog for sharing the experiences from the Atal Innovation Mission.

We extend our sincere regards to former Commissioners of Udaipur and Faridabad; Shri. Siddharth Sihag, and Shri. Mohammed Shayin, respectively and Shri. KH Jagdeesha, Commissioner, Mysuru City Corporation (MCC) for their support towards IHUWASH project. Our sincere thanks to Shri. Nagraju, Health Officer, MCC, and Nodal officer IHUWASH project; Mr. S Shamsundar, WASH Chair, WASH Lab, National Institute of Engineering (NIE), Mysuru; Dr. D K Chadha, WASH Chair, WASH Lab and Dr. Sarita Sachdeva, **Manav Rachna International Institute of Research and Studies, Faridabad**, and Dr. Manish Varma, WASH Chair, WASH Lab, Geetanjali Institute of Technical Studies (GITS), Udaipur for sharing their views and experience of the IHUWASH project with the dignitaries attending the Summit.

We are thankful to the WASH entrepreneurs who participated in the IHUWASH Accelerator component for participating and highlighting their innovations with the audience. The Summit provided them a platform to discuss and resolve pressing issues related to WASH innovations and their implementation.

The team is extremely grateful to Mr. Anand Rudra, Senior WASH Specialist, USAID India, and the Agreement Officer Representative (AOR) of the IHUWASH project for his immense support in successfully organizing this national event. We would also like to mention our partner Ennovent's efforts to ensure innovators participation and contribution to the Summit.

Organizing the National WASH Innovation Summit 2018 would have not been possible without the support of our organizing partner Elets Technomedia Pvt. Ltd. We are grateful to Mr. Ravi Gupta, CEO, Elets and his team members; Mr. Souvik Goswami, Mr. Gopi Krishna Arora, and other team members for their active support in organizing this Event. We extend our thanks to them for releasing a special issue of the eGov magazine highlighting the Summit, and WASH related activities of NIUA through its thorough articles.

The IHUWASH team at Delhi and in the respective project cities constantly work to upscale the existing innovations in the WASH sector through research, and consultation, and associating with various organizations in the project cities. Their support in compiling, editing and finalizing this document is noteworthy. The efforts of the dedicated design team at NIUA in giving the presentable outlook to this document deserves a special mention.

Last, but not the least, we thank all the participants and attendees for their remarkable contribution to the summit.

At the end, I would like to extend my heartfelt gratitude to Prof. Jagan Shah, Former Director of NIUA for initiating the project under his visionary leadership. IHUWASH has achieved manifold in bringing about a change in the urban WASH sector of each of its cities. The Summit was a success due to his efforts in bringing together stakeholders in resolving and addressing the problems of the sector in a common platform.

Mr. Hitesh Vaidya  
Director, NIUA



# NATIONAL WASH INNOVATION SUMMIT

20<sup>th</sup> November, 2018, New Delhi

30 distinguished speakers

120 participants

## EXECUTIVE SUMMARY

Indian economy is growing at an annual rate of nearly 7 per cent and so is its population, which is estimated to reach 600 million by 2031. This not only makes India the fastest growing economies of the world, but also the largest population in near future. The growing population has also resulted in rapid urbanisation creating economic opportunities, but at the same time has put pressure on provisioning of basic infrastructure such as access to clean water and sanitation facility. The 'Composite Water Management Index' (CWMI) report of NITI Aayog highlighted that nearly 600 million Indians are facing high-to-extreme water stress; where more than 40% of the annually available surface water is used every year, and about 200,000 people die every year due to inadequate access to safe water. As per the World Health Organisation estimate, every year 100,000 young lives are lost due poor sanitation and hygiene facilities in India.

Improvement in Water, Sanitation, and Hygiene (WASH) is a priority for the Government of India, and this has been reflected in the progress achieved through its flagship programs such as Swachh Bharat Mission (SBM), Atal Mission for Rejuvenation and Urban Transformation (AMRUT), etc. In the last four years, the national sanitation coverage has grown exponentially from 38.7 % in 2014 to 74% in 2017. A recent joint United Nations agency study; 'Drinking Water, Sanitation, and Hygiene in Schools: 2018 Global Baseline Report' also confirms the rapid progress in increasing access to sanitation in schools in India. The study indicated that between 2000 and 2016, the proportion of schools in India without any sanitation facility has decreased even faster than the proportion of the population practicing open defecation.

Despite these attempts; several challenges continue to adversely affect the urban WASH sector. Moreover, poorly planned and managed systems are mostly supply-driven and oriented towards asset-creation rather than service-delivery. As a result, they often fail to meet benchmarks of service quality, efficiency and cost recovery. The key to overcome these issues, therefore, lies in the sourcing of innovative technologies, creative service delivery models, capacity building at the community level and the forging of partnerships with key city stakeholders for creating an ecosystem to provide equitable WASH services. In addition, there is also a need to create an inclusive ecosystem within an existing working framework that can accommodate innovative solutions for the urban WASH challenges.

To that end, the National Institute of Urban Affairs (NIUA), a premier research institute under the Ministry of Housing and Urban Affairs (MoHUA) , is implementing a project



called 'Innovation Hub for Urban WASH Solutions' (IHUWASH). The project is supported by United States Agency for International Development (USAID) and is being implemented in the three cities namely Faridabad, Udaipur, and Mysuru since October 2016.

The primary goal of the IHUWASH project is to improve the urban WASH sector performance through incubation and acceleration of innovative solutions, technologies, programs and service delivery models within a collaborative framework. The activities of the hub is also contributing in national and state urban initiatives (AMRUT, SBM, SMART City Programs). In the project; 58 innovative solutions were sourced through a grand challenge. Out of these; 23 innovative and scalable models were presented to a team of experts in IHUWASH cities for pilot implementation. The 10 incubation centres partnered in the project will support the upscaling and replication of solutions.

In this context, NIUA in partnership with Elets Technomedia organized the National WASH Innovation Summit on 20th November, 2018 at New Delhi. The overall objective was to bring together WASH stakeholders from government bodies, civil society, donors, and innovators, on a common platform for a discourse on how to support, enable and sustain innovative WASH ecosystems such as IHUWASH at a larger scale. The Summit was inaugurated by Shri Hardeep Singh Puri, Hon'ble Minister of State (Independent Charge), MoHUA and a special issue of e-Gov magazine on "WASH Innovations - Emerging Trends in Urban Sector" was also launched.

The day long discussions were focused on unwrapping innovative, affordable, sustainable and scalable WASH solutions with special focus on technology, innovations, and financial models. It hosted 30 distinguished speakers, and around 120 participants from public and private sectors, civil society organizations, urban local bodies, academic institutions, ministries, and international agencies.

The Summit provided an insightful platform to discuss and analyze crucial issues regarding uptake, implementation, procuring, financing, and developing business models for innovations addressing WASH challenges. The issues that were deliberated upon were broadly categorized under four Technical Sessions of the Summit:

- Catalyzing Innovative WASH solutions through Partnerships (Key focus on SDG 6 and SDG 17)
- Accelerating Innovations in WASH
- Innovative financing tools and procurement challenges in WASH
- Amplifying the role of innovations in the WASH sector

The report provides an overview of each Technical Session and highlights the key takeaways of each session, giving an overarching solution to the problems discussed. Summarizing the broad outcomes, following key points were highlighted at the end of the day:

- Emergence and the need of more ecosystems such as IHUWASH to promote innovations.
- In addition to promoting innovative technologies, focus to develop innovative policies and approaches to attract private sector in WASH sector.
- Urban Local Bodies need to find innovative financial models to improve the WASH sector of the cities.
- WASH challenges need to be addresses through innovations in the sector and building strong partnerships

Roadmap for promoting innovative solutions in the WASH sector covers the Summit deliberations, key outcomes and suggestions



The primary goal of the IHUWASH project is to improve the urban WASH sector

To sustain and amplify innovations, community engagement and effective communication plays important role.

In addition to the four Technical Sessions; a special address was delivered on The role of innovations to make transformational impact in Urban WASH Sector by Mr. V K Madhavan, Chief Executive, WaterAid. He highlighted the need of resource planning, regulations and standards to ensure safe sanitation practices through innovations in government policies. In addition, Ms. Ishita Agrawal, Manager, NITI Aayog shared experiences of promoting innovations by Atal Innovation Mission with the distinguished participants.

The Summit also provided the platform to launch the WASH Economy Report prepared by the IHUWASH project team. It was released by the WASH chairs of the IHUWASH project cities, along with the entire team. The report analyzes the magnitude of WASH business and its supported livelihood in the three cities of Udaipur, Faridabad and Mysuru.

Post the Summit, a roundtable meeting was organized in December 2018 to discuss and re-look the key takeaways of the National WASH Innovation Summit to foster the innovations in the WASH Sector with a special focus on Government of India plans and policies.

Overall, the Summit helped gauge the scale of problem of WASH infrastructure and its impacts on health and environment, and the need to address these issues by sourcing innovative solutions to reduce the gap in infrastructure.

This report; 'Roadmap for promoting innovative solutions in the WASH sector' covers the Summit deliberations, key outcomes and recommendations, with an objective is to contribute in developing, promoting, procuring and upscaling the innovations of the WASH sector at city, state and national level.



## RECOMMENDATIONS

Given below are the main recommendations from the different sessions grouped by themes. These recommendations include the suggestions from the post-Summit brainstorming roundtable session, which took place to further discuss the overall outcomes of the Summit and propose focused suggestions to aid Innovation Ecosystems such as the Innovation Hub for Urban Water, Sanitation and Hygiene Solutions.

### Catalysing Innovative WASH Solutions through Partnerships

- There is a need to develop ecosystems and enabling conditions to support innovations, multi stakeholder partnerships at local level to support urban local bodies in addressing WASH challenges.
- Models like IHUWASH needs to be replicated in other cities with the support of state urban development departments and under the guidance of Ministry of Housing and Urban Affairs at national level.
- Partnerships can help Government to promote innovations by supporting on ground implementation, based on suggested improvements, recommendations for upscaling, reducing risks and cost optimization.
- Private sector partnerships for catalysing innovative solutions can be achieved by encouraging the use of corporate social funds.
- WASH innovations that emerged through key flagships initiatives like Atal Innovation Mission, Startup India, etc. can be upscaled through supportive procurement process, proper risk allocation, and by using standards or regulations to encourage the replication.


### Accelerating Innovations in WASH (Innovators Perspective)

- There is a need to create more ecosystems like IHUWASH, which provides a platform to understand, consult and collaborate for implementation of innovative WASH solutions with city administration.
- The donor support models provide an opportunity to implement the innovations on the ground, which helps in the validation of solutions. However, a more comprehensive government involvement is required to upscale these models across the country.
- To overcome the challenges of arranging finances for WASH projects in general and for innovators working for WASH ideas in particular; better allocation of risks and transparency is required so that innovative financing instruments can be utilized.
- To develop 'for profit sustainable models' enabling policy reforms like enforcement of user charges on water, sanitation and related services will be useful for making a viable model for implementation of innovative ideas.
- To support innovations in WASH, a percentage of funds of related flagship programs like SBM needs to be allocated. This will facilitate pilot testing of the solutions on ground and further upscaling of successful models.

### Innovative financing tools and procurement of innovations

- To access innovative financial tools like development impact bonds, equity, pooled financing, etc. enabling ecosystem based on the principles of transparency and balanced risk sharing approach plays an important role. For

There is a need to develop ecosystems to support innovations in addressing urban WASH challenges



Use of technologies like Geographic Information System (GIS), app-based solutions can be useful for decision making and impact assessment of innovative solutions.

impact financing, a micro utility model and a public disclosure system in the WASH sector will be useful.

- To promote innovations, there is a need to move service-delivery approaches and service-based contracts.
- To improve the bankability of WASH projects; revenue models based on combination of subsidies, grants, user charges can be useful. Depending on city specific needs and project requirements, actual viability gap requirements should be considered. To undertake these activities, capacities of city officials can be developed by using government and donor funding.
- To create awareness and to enable the procurement of successful WASH innovations, pilot implementation at city level is the first step. To replicate the models, inclusion of innovations in the form of manual at state level can play an important role. Based on the experience, these innovations can be imbibed in the procurement process at the center level for further upscaling.

### **Amplifying the role of innovations in the WASH sector (Role of Communication and Community Participation)**

- For effective communication, it is important that the messaging is clear, consistent and specific to target audience, using the right channel of communication.
- Community being an important stakeholder and resource should be engaged at each level. To develop innovative products or services, it is important to understand the requirements of a community, services or products beneficial for them, ease of use, etc. Further, the provisions of giving regular feedback can help to further improve the services or product. Partnership models like IHUWASH can be useful to ensure community participation.
- To develop effective information, education and communication (IEC) collaterals; data related to problem statement and challenges, available solutions including creative and innovative tools plays important role. Use of technologies like Geographic Information System (GIS), app-based solutions can be useful for decision making and impact assessment of innovative solutions.
- There is a need for dissemination of available IEC resources related to WASH based target audience in a planned manner. Communication tools such as peer educators, champions of change, reward recognition, comics, games, etc. along with key influencers for behavioral change should be part of every communication.
- Promotion of technological innovations beyond infrastructure creation i.e for communication and information dissemination in WASH sector is required.

### **WASH Economy Report**

- There is a need to map the WASH economy to understand the size and contribution in the GDP and associated livelihood generation at national scale. This will be useful to provide the policy support to increase the private sector investment as well as to identify the potential of innovations.
- The assessment of associated livelihoods in WASH sector will aid identification of the requirement of capacity building of human resources and form linkages with existing flagship programs. For eg. the training and certification of plumbers, mason, et al can be taken under Skill India Mission; the employment opportunities can be provided through National Urban Livelihood Mission.
- The WASH Economy report at national level can be built upon the WASH Economy Report published under IHUWASH project.



Top Image: Honourable Minister, Shri Hardeep Singh Puri delivering the inaugural address

Bottom Image: The distinguished audience at the inaugural session of National WASH Innovation Summit

## INAUGURAL SESSION

The National WASH Innovation Summit was inaugurated by esteemed dignitaries from the Government of India, and experts from the WASH Sector. The inaugural session was attended by over 120 invited participants from the public sector, private sector, academia, innovators, WASH stakeholders. The inaugural session set the pace for the day, unfurling critical topics for further discussion.



Prof. Jagan Shah

The IHUWASH project works on the synergy between different organizations working as an ecosystem in a sustainable manner.

1. **Prof. Jagan Shah, Former Director, NIUA** set the context of the Summit by giving a brief on the main objective behind conceptualizing the Innovation Hub for Urban Water, Sanitation and Hygiene Solutions (IHUWASH) Project, and how it is integrating the objectives of Sustainable Development Goals (SDGs). Prof. Shah mentioned that “The IHUWASH project works on the synergy between different organizations working as an ecosystem in a sustainable manner.” He spoke in great detail about the ecosystems that have been established in each of the project cities, involving the urban local bodies (ULBs), academic institutes, industries, private sector, non-government organizations (NGOs), civil societies and citizens. He addressed regarding how IHUWASH is actively working to promote innovative ideas and technology in the WASH Sector. He specifically mentioned about the Accelerator component of the project, which provides a platform to make a pitch by the WASH innovators to present their ideas and technologies in front of the ULBs and, the selected technologies will be implemented at pilot scale in the project cities. Prof. Shah mentioned that during the day long discussion, the learnings and experiences of IHUWASH, which is in the last year of the project timeline will be shared. He spoke about the plans of long-term engagement of stakeholders working for addressing the WASH challenges post this summit.
2. **Dr. Ravi Gupta, CEO & Editor in Chief, Elets Technomedia Pvt. Ltd.**, welcomed all the guests attending the WASH Summit. He mentioned how Elets has been conducting similar events related to Smart Cities, AMRUT, etc. at national and international level which provides an opportunity of discussions on various aspects and opportunity of stakeholder engagement.
3. **Shri Hardeep Singh Puri, Hon'ble Minister of State, MoHUA, GoI.** delivered a special address in the Summit. He began by mentioning that India has achieved commendable success in the recent years and has come up a long way in the urban development sector. The evidence can be seen in the form of vigorous implementation of development activities through the launch of major six flagships program by GoI. The pre-May 2014 years in India did not sufficiently acknowledge either the scale or pace of urbanization in India. The trends clearly show that Indian Cities are rapidly growing, and it is contributing for the growth of Indian Economy. 65% of India's gross domestic product (GDP) is accounted from the cities and more than 90% of the tax collected are from the urban areas. Whereas, 66% of India's population resides in rural areas and agriculture accounts only for 12% in India's GDP. The Global Benchmark figure for urban existence is 50% whereas India is still at 30%. By 2030, 40% of India will be living in urban areas. Therefore, we should accept that urbanization is here to stay and the only way is to plan for it judiciously. Shri Puri mentioned that how the flagship programs being launched under Modi Government in India are making a difference in the urban development sector. He gave a brief and overall progress of each of the schemes being launched related to the WASH sector till date.

**Swachh Bharat Mission (SBM)** – After four years of the launching of the SBM scheme and due to stakeholder’s participation and citizen engagement; the sanitation coverage in India till date has increased to 92% from 39% in 2014. Shri Puri quoted that “SBM has moved from being a project of the government to be a project of the people or a Jan Andolan. Till date, 6.2 million Individual Household Toilets (IHHL) have already been constructed and it is expected to meet the target 6.7 million Toilets in urban areas before the target date of 2nd October 2019. Similarly, the target of constructing half a million community toilets will be met before the target date as 0.4 million community toilets have already been constructed. In solid waste management in urban areas, the scientific processing has increased from 19% to 43% and with completion of projects in pipeline, the targets will be achieved within stipulated time.

**AMRUT** - The five-year scheme, which started in 2015 includes 500 cities with over 100,000 population which covers 66% of urban cities with total. The funding patterns of the scheme is 20:40:40 that is city, state and center share, respectively. Shri Puri also disclosed that The Government of India is planning to launch AMRUT Plus Scheme in the next six months as a second phase in order to increase the coverage of water supply and sanitation services in urban areas.

**SMART CITIES** – The 100 Smart cities were selected in a competitive manner. For India, which is a highly populated country; it is not possible to create new smart cities. Therefore, out of the 100 cities, 90 have been selected under brownfield development category. Till date, around 98 selected cities have set up their Project Management Consultants (PMC) and Special Purpose Vehicle (SPV). The projects are at implementation stage and funds disbursement is made on completion of milestones.

**SANITATION** – Shri Puri stressed upon how Swachhta Mission has created an absolute insistence on WASH throughout the country. For many years, a change in direction has been missed, only after the 14th Finance commission, it has been decided that funds will be released to ULBs via State Governments. But there has always been a reluctance in releasing of the funds by the states. This is due to the huge magnitude of tasks to be performed by the states and due to the shortfall of resources and lack of capacities.

As per Cambridge Economists, Maddison; before Independence; India’s contribution to global GDP in 1700 was around 27%, after colonial era it reduced to 3% and post 70 years of independence, it is only 12%. In the last three quarters, India’s rate of average growth rate was 7.7%, at this rate, India will become a 5 trillion economy by the year 2025 and its per capita income will double simultaneously. But there is a need to deal with the increasing population and to fulfil the projecting demand for water supply and sanitation for the coming years. Shri Puri revealed that following this pace of development; by the year 2030, when the Sustainable Development Goals are achieved; India will become a 10 trillion economy”. Shri Puri also stressed upon the need that ULBs should raise their revenue system either directly or through innovative financing mechanism to improve WASH sector in their respective cities and towns. He gave the example of cities like Pune, Hyderabad and Green Field city like Amaravati, which has successfully raised funds through floating of municipal bonds. He gave example of Metro services; that if citizens are satisfied with the services, they are ready to pay for the services. Shri Puri mentioned that innovative



Shri Hardeep Singh Puri

India has achieved commendable success in the recent years and has come up a long way in the urban development sector.



Shri Hardeep Singh Puri,

“ULBs should raise their revenue system either directly or through innovative financing mechanism to improve WASH sector in their respective cities and towns”

financing is need of the hour and projects like IHUWASH are developing the capacities of ULBs by providing training and necessary support. There is a need for involving these professionals in the organizational structure of the ULBs for better functioning of urban areas. He mentioned about the shortage of urban planners. Shri Puri stressed on “need professional cadre for urban managers”.

Concluding his speech, Shri Puri, gave a brief overview of the initiatives taken by the Gol in order to improve WASH Sector in the urban areas. Under the AMRUT Scheme over 2400 projects worth INR 74,000 Crores (740,000 million) to improve water supply, sewage and drainage facilities under the State Annual Action Plan (SAAP) for the year 2015 – 2020. Gol has also awarded the AMRUT Technology Challenge winners for providing solutions to eliminate the non-human essential entry for manual scavenging for cleaning of sewer sand septic tanks. Under Smart Cities Mission, cities are developing smart, sustainable and resilient sanitation system through PPP. All these initiatives directly or indirectly contribute to achieve the goals of SDG 6 which talks about access to drinking water and sanitation for all by 2030 through collective efforts and innovative strategies.

At the end, he acknowledged the concept of formation of Innovation Hub, which IHUWASH is implementing in its project cities. There is a need to develop creative solutions, which is cost effective and solves the problem at a ground level. The need of the hour is to upscale and mainstream the innovations at city level. He congratulated NIUA for taking initiatives under IHUWASH Project by forming an ecosystem of hubs to assist the ULBs in procuring innovative technologies. There is a need to rework the entire ecosystem for city governments in our country just like how IHUWASH is assisting the ULBs by forming hubs at local level in collaboration with local technical institutions, industries, business chambers and community-based organizations.

He also suggested to disseminate the learnings and Summit’s takeaways in the form of a booklet and assure full support to promote innovations in the sector.

4. In his keynote address, **Mr. Mark A. White, Former Mission Director, USAID India** laid a special emphasis on the word ‘innovation’, which is beyond the dictionary definition of ‘a new idea, a new device, a method’. According to USAID; the word “Innovation” means creative sustainable solutions to a global development problem. The solution can be in the form of a product, technology, services or a business model. USAID has been undertaking many WASH related innovation programs in India. Mr. Mark White cited few of USAID’s initial support, which brought about an improvement in India’s WASH sector such as initiating the first municipal bond in Ahmedabad in 1998, which led to improvement in access to reliable and affordable finances. This assisted the Gol in providing water and sanitation services to all its citizens. Another example of USAID India’s support towards innovation has been the installation of Water ATMs/Kiosks, which works on reverse osmosis model. This provides drinking water supply to many communities where water supply facilities have not reached till date.

Mr. White spoke about various other assistance USAID India has provided such as support to Water Health International and Safe Water Network to expand their innovations by helping them develop tools to access market viability, monitor water quality and to ensure that the facilities are being effectively operated remotely.





USAID India has even supported through building partnerships with organizations such as Centre for Urban and Regional Excellence (CURE) and Urban Management Centre (UMC), Ahmedabad to implement geographic information system (GIS) Mapping tools at the ULB level.

USAID is currently supporting Gol's Swachh Bharat Mission (SBM). Mr. White appreciated the commitment shown by Shri Narendra Modi, Hon'ble Prime Minister of India for undertaking such initiatives. He mentioned that these efforts were nowhere comparable to other countries in the world. USAID India proudly worked with Gol in piloting Swachh Survekshan Survey of Indian cities under the SBM. This approach has clearly articulated national priorities and access to cities progress towards sanitation goals. He spoke about the innovative initiatives like Google Map Toilet Locator and awarding the Grand Technology Challenge organized by MoHUA on World Toilet Day.

Mr. White, in his address stressed on the fact that apart from promoting innovative technologies; USAID India is also focusing to develop innovative policies and approaches to attract private sector. Till date USAID India is working with 53 private sector partners and with every dollar spend we are able to leverage six dollars. Stating that he mentioned that there is a need to identify and effectively manage private finances.

Mr. Mark White congratulated Mr. Hardeep Singh Puri, Hon'ble Minister of State (Independent Charge), MoHUA for his sustained efforts for implementing schemes like AMRUT, SBM and Smart City Mission as well as Atal Innovation Mission hosted by NITI Aayog in order to ensure clean drinking water and sanitation services across India. He also mentioned about the incredible progress of Gol towards the goal of achieving Open Defecation Free (ODF) Status. Till date around 4121 cities in 19 states have been declared ODF cities.

Mr. White quoted the lines of General George S. Patton – “Never tell people how to do things. Tell them what to do, and they will surprise you with their ingenuity”. He concluded with another quote stating, “Without a vision, the people perish” and this will never happen in India, which has a vision and strategy for its people. Mr. Mark White expressed the desire and the goal of USAID India to work collectively and in collaboration in an innovative manner to improve the WASH Sector of India.

“



Mr. Mark A. White

According to USAID; the word *Innovation* means creative sustainable solutions to a global development problem.

”

- 5 **Shri Anjum Parvez, Secretary, Urban Development Department, Government of Karnataka;** delivered the keynote address on Urban WASH Sector. He began his address with stating few facts such as the increase in the number of cities in India from 5500 to 8000 within a span of seven to eight years. Karnataka state has itself seen a rapid urbanization process, and over a period of 8 years there has been 39% increase in the urban population. He mentioned how migration from rural to urban areas has been cited as one of the major reasons for increase in urban population. There is also some sort of competition among the states to declare their state as more urbanized by increasing the coverage of urban areas. However, the resources allocated to urban sector is not increasing at same pace. On speaking about sanitation, he mentioned that the history of sanitation technology can be dated back to Harappan Civilization, where such facilities were efficiently managed with the provision of well-planned sanitation system. Also, it has been in the records that the evolution of Public Toilet started in India at around 1556, which was undertaken by Jahangir Alam at Alwar, Rajasthan. The first Public Sanitation Policy for India was Framed in the year 1878 by the Britishers and construction of toilet at every household and Public Toilet in huts was made mandatory in Kolkata City. Since the last 30 - 40 years of independence, the urban areas were not given major concern and that's the reason why our country is lagging in terms of infrastructural development. Shri. Parvez said that till date, around 6 crores (60 million) of population in our country do not have access to improved sanitation arrangement and only 33% of the total population of our country has piped water supply connection. The SDG Goals talks about provision of sanitation facility but does not highlight the conveyance of fecal and sludge management, which also needs to be considered while planning the sanitation system.



Shri Anjum Parvez

A city can't be termed as smart until and unless every individual household is getting at least 100 litre per capita day of water and proper sanitation and hygiene system.

Shri. Parvez mentioned that in Karnataka, there are around 217 ULBs and only 69 of them have managed to build underground sewerage system. There is an enormous requirement of fund to bridge the gap and it will amount to approximately INR 20,000 crores (200,000 million). But the allocated fund is around INR 2000 – 2500 crore (20,000 – 25,000 million) per annum including the funds available from the Central Government for AMRUT Scheme. It will take 10 -15 years to bridge this gap with traditional funding mechanism. Hence, there is a need for innovation. He also emphasized on the need to ensure timely completion of ongoing schemes.





Shri. Parvez, referring to IHUWASH Project mentioned how innovative technologies can be adopted by the state government to procure innovative technologies for efficient infrastructural management of the cities. Speaking about Karnataka, he said that the state had recently adopted fecal sludge management and septage management technologies, which are cost effective in comparison of underground sewerage system. With this system; an investment of INR 200 crores (2000 million) for 55 cities are covered.

- Shri Parvez cited key initiatives implemented by the Indian government to procure innovative solutions in the development sector e.g. Integrated Development for Small and Medium Towns (IDSMT) was the first initiative taken by Government of India (GoI) in 1979; total Sanitation Campaign that was launched in 1992; and the current Government's AMRUT Scheme, Smart City Missions and Swachh Bharat Mission, which are extremely important national programs. Shri. Parvez referred to how NIUA has established the concept of creating hubs both at national and city level through IHUWASH Project and have developed an ecosystem of all the stakeholders of development needs to be formulated so that soft loans can be provided. The learnings from public private partnership (PPP) model needs to be taken into consideration. The full recovery of costs from user charges may not be feasible at this point of time, so capital investment by Government funding and resources for operation and maintenance can be recovered by user charges.

Shri. Parvez concluded by saying that a city can't be termed as smart until and unless every individual household is getting at least 100 liter per capita day of water and proper sanitation and hygiene system.

**Prof. Jagan Shah, Former Director, NIUA** concluded the inaugural session with a vote of thanks to the honorable chief guests, other speakers and delegates of the Summit. Setting the context for the subsequent Summit Sessions, he mentioned about the four dimensions of the IHUWASH ecosystem - partnership building, accelerate innovations, innovative finances and procurement as well as the importance of information, communication and technology in amplifying the achievements of the project at the local level.

# THE IHUWASH ECOSYSTEM

## Project Cities



Faridabad



Udaipur



Mysuru

## Key components of IHUWASH

**Incubation Centers:** The project has formalized partnerships with 10 Incubation Centers across the country in leading institutions like Indian Institute of Management Udaipur and Shiv Nadar University amongst others to promote innovative ideas and support entrepreneurship of start-ups undertaking WASH as business.

**WASH Labs:** WASH Labs are city based technical institutions to support the municipal corporations to plan, design, and execute innovative WASH solutions. The WASH Labs are strengthening the ecosystem that is not only limited to the focus cities but also extends to the state level. It does so by conducting action research, capacity building activities, trainings, and advocacy efforts with the citizens. Another key component of the WASH Lab is ensuring private sector and citizen engagement in addressing WASH challenges through the WASH Forum.

- Manav Rachna International Institute of Research and Studies, Faridabad
- Geetanjali Institute of Technical Studies, Udaipur
- National Institute of Engineering, Mysuru

## WASH Economy Report:

The project analyzed the size of the WASH economy and the magnitude of the business that it generates. The report also focuses on formal and informal livelihood opportunities in the WASH sector in its focus cities.



**Innovative community and public toilet prototypes** were documented to provide guidance for further adoption and scaling up.



**Micro-utilities:** The project aims to set up micro-utilities for creation of a self-sufficient enterprise for the operations and maintenance of public and community toilets.



# SUMMIT SESSIONS OVERVIEW



# National WASH INNOVATION SUMMIT

Enabling Innovation Ecosystems for WASH  
20 November, 2018 | New Delhi



Technical Session I Panelists (L-R: Mr. Mahesh Harhare, Mr. Hansraj Choudhary, Prof. Jagan, Shah, Dr. D G Nagaraju, Dr. Sarita Sachdeva, Ms. Manvita Baradi)

## TECHNICAL SESSION I

### Catalyzing Innovative WASH Solutions through Partnerships (Key focus on SDG 6 and SDG 17)

In this session; project partners of Innovation Hub for Urban Water, Sanitation, Hygiene Solutions (IHUWASH) cities, USAID supported project partners and 100 resilient cities' representatives shared about their project experiences. The discussions were focused on how multi stakeholder partnerships in the cities are addressing WASH challenges through innovative approaches.

#### Session Chair – Prof. Jagan Shah, Former Director, National Institute of Urban Affairs

##### Speakers:

- Dr. D.G. Nagaraju, Health Officer and IHUWASH Nodal officer, Mysuru Municipal Corporation
- Dr. Sarita Sachdeva, Professor, Manav Rachna International Institute for Research and Studies, Faridabad
- Mr. Hansraj Choudhary, President, UCCL, Rajasthan
- Mr. Mahesh Harhare, Chief Resilience Officer, Pune, 100 Resilient Cities
- Ms. Manvita Baradi, Director, Urban Management Centre

## Overview

Prof. Jagan Shah initiated the first technical session by briefing the gathering about the importance of addressing WASH challenges with innovative solutions and multi-stakeholder partnerships. He explained the significance of building these partnerships, and the efforts in designing such efficient collaborations, which catalyze an ecosystem in the city.

### **Dr. D. G. Nagaraju, Health Officer, SBM Nodal Officer & IHUWASH Nodal Officer, MCC**

Dr. Nagaraju presented a brief overview of the ecosystem of innovations existing in Mysuru since early 19th Century in the WASH Sector. He spoke about the efforts made by the kings to address WASH issues by bringing various technologies to the city. Focusing on the current scenario, he said that the WASH challenges of Mysuru is due to rapid urbanization, industrialization and tourism. He stated that to address these challenges; MCC has planned to upgrade the sewage network and treatment facilities. With SBM funds and private sector partnership, MCC has constructed more than 75 public toilets and 14 e-toilets to reduce open urination. Further, he shared the experiences of partnerships setup under IHUWASH project by giving examples of WASH Lab, which has provided intellectual support to MCC; partnership with chamber of commerce has enabled MCC to consider innovative funding through corporate social responsibility (CSR). He concluded by mentioning that under IHUWASH; a public sanitation facility has been proposed, and a site for retrofitting of community toilet has been identified.



Dr. D. G. Nagaraju

### **Dr. Sarita Sachdeva, Professor, Manav Rachna International Institute for Research and Studies, Faridabad**

Dr. Sarita Sachdeva began with a brief overview of the WASH challenges of Faridabad, such as unavailability of safe drinking water and sanitation facilities. Although Faridabad is in close proximity to the national capital; the WASH standards of the city are below average causing worry to the citizens. She appreciated the partnership concept of the WASH Lab; an initiative implemented under the IHUWASH project and mentioned the need of more such initiatives in the city. She highlighted that one of the important aspects of the WASH Lab is capacity building programs and assessment workshops, which enables a system of getting feedback from the stakeholders. WASH Forums created under the WASH Lab will also facilitate a multi-stakeholder platform; where issues and challenges of residents, industries and other stakeholders in the city will be addressed. She mentioned that the capacity building programs of the WASH Lab will help many enthusiastic city engineers to avail training on addressing issues in WASH Sector.



Dr. Sarita Sachdeva

### **Mr. Hansraj Choudhary, President, Udaipur, UCCI, Rajasthan**

Mr. Hansraj Choudhary gave a brief introduction of Udaipur as the City of Lakes and explained that the lakes were created to collect rain water, with a vision for water conservation. The lakes would recharge the water table and provide water for irrigation as and when required. But, he highlighted that the recent growth of the city has impacted this conservation process due to ignorance and reduced efforts.

On speaking about recent initiatives in the WASH Sector of Udaipur; he said that in 2015; UCCI in collaboration with Udaipur Municipal Corporation (UMC) established around 30 water ATMs, which dispenses water at Re. 1 per liter. In addition, around 30 specially-abled people have been provided employment as operators to manage these water ATMs. He also added that WASH interventions and awareness should be



Mr. Hansraj Choudhary



Mr. Mahesh Harhare

Partnerships with various international universities and organizations play a key role in the implementation of projects such as the 100 Resilient Cities

accompanied with levying fines. UCCI has access to around INR 1000 Crore (10,000 million) of CSR funds, which can be pumped into improving WASH sector of Udaipur. IHUWASH can bring in innovative ideas and projects, which can be funded through the CSR. He emphasised that platforms like IHUWASH should work as a bridge between the Government, technology providers and CSR donors for the betterment of the city.

### Mr. Mahesh Harhare, Chief Resilience Officer, Pune, 100 Resilient Cities

Mr. Mahesh Harhare gave an introduction of the 100 Resilient Cities; a Rockefeller Foundation initiative to create 100 resilient cities around the world. The idea of this initiative is to identify projects to address issues related to 24x7 water supply, river pollution, river conservation, water management, data management and improving the service levels. These projects will be implemented in due course of three years. He said that there were around 150 platform partners, who are subject experts on diverse topics, and are a part of this initiative. He also mentioned that the city administration is planning to allocate budget for localization of SDG goals. Partnerships with various international universities and organizations are also being explored, which will play a key role in the implementation of such projects.

### Ms. Manvita Baradi, Director, Urban Management Centre

Ms. Manvita Baradi began her address by emphasizing on the need for Urban Managers to handle the complex issues of urban areas. She said that the need to bring cities together was realized two decades ago, and 100 cities program was initiated with the support of USAID. The project supported the partnership with academia for strengthening the capacity of the cities. She also highlighted that the financial strength of the third tier of governance i.e. the urban local bodies should be improved for delivering the services to the city's residents, and further explored options of innovative ecosystems in the city. Speaking about the Urban Management Center; she mentioned that one of its aspect is to work on convergence between Swachh Bharat Mission and National Urban Livelihood Mission, where one mission creates the infrastructure and the other mission creates the livelihood for people who can operate the infrastructure created.







She also said that associations with academia and civil societies play a major role in improving the WASH services. IHUWASH has rightly laid down the partnership between city administrators, academia and industries to create an ecosystem for the improvement of the service delivery systems. Such approaches to address the WASH challenges are important.

### Key Takeaways

Prof. Jagan Shah concluded the session by highlighting the case study of Ahmedabad Municipal Corporation, which has been successful in-service delivery, mainly because of its linkages between various academic institutions and civic societies. He summed up the key takeaways of the session as follows:

- Dr. Nagraju said the city itself is an innovator, the city government is a leader in innovations and IHUWASH is further trying to build the capacity of the cities
- Dr. Sarita highlighted the importance of WASH Forum, where multi-stakeholders of the city will get a platform to discuss the WASH Challenges of the city and find solutions
- Mr. Choudhary has highlighted the active role of local industries, which may not invest the funds in government programs, instead fund initiatives at local level.
- Mr. Mahesh highlighted the resilience approach and IHUWASH should include resilience along creating an ecosystem in the city
- Lastly, Ms. Manvita, has highlighted the importance of associations and partnerships in the city and creation of specialized urban cadre who are able to address the urban challenges.



Ms. Manvita Baradi

Associations with academia and civil societies play a major role in improving the WASH services.

# IHWASH ACCELERATOR

## INNOVATION HUB FOR URBAN WATER, SANITATION AND HYGIENE (IHWASH)

### What is the IHWASH?

This is a three-year project supported by the United States Agency for International Development (USAID) and aims to improve the performance of urban WASH programs for India within a collaborative framework. It works through incubation and acceleration of innovative, scalable, community and market-based solutions using technologies, programs and service-delivery models.

Under IHWASH, national and city-level Innovation Hubs are being established to work closely with the Faridabad, Mysuru and Udaipur city governments, along with other national-level WASH stakeholders. These Hubs focus on identifying national and city-level WASH issues, and address them by contextualizing, testing and scaling effective, affordable and sustainable innovations, sourced at the national and international level.

The IHWASH Accelerator is a program under the IHWASH platform that identifies, supports, and scales market-based innovations to solve pressing WASH problems for urban India.

Through the accelerator we help:

- The city governments to innovate beyond the conventional contracts or service providers they currently engage with
- The selected WASH innovations to scale their model via government partners

### WASH issues that Accelerator Programe applicants are targeting



Key water innovations include safe drinking water, last-mile distribution and helping city governments detect unauthorized water connections, leakages and theft

Key sanitation innovations include decentralized solutions, treating sewage, fecal sludge management and improving public/community toilets



Key hygiene innovations include menstrual hygiene, changing WASH behaviors and creating incentives



58

Innovations Sourced

8

to be upscaled

The three major program components are:

58

**SOURCE**

Market-based applications received

23

**SELECT**

Innovative, scalable applications presented to the local city stakeholders

8+





**SUPPORT**

Innovations for pilot testing

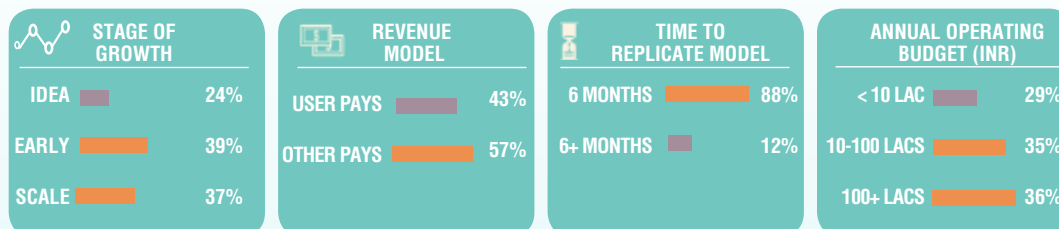
# 23 INNOVATIONS

## Innovative, scalable and market-based solutions or specific WASH challenges

The applications were assessed based on the following criteria:

 <p><b>Unique Innovation</b></p>	 <p><b>Solves Identified WASH Problem</b></p>	 <p><b>Though a Market Based Model</b></p>	 <p><b>That is Replicable and Scalable</b></p>
<p>a clear and differentiated offering</p>	<p>solves a pressing urban WASH problem</p>	<p>Clear path to sustainable growth</p>	<p>model can scale through governments</p>

### OVERVIEW OF IHUWASH ACCELERATOR KEY APPLICATION

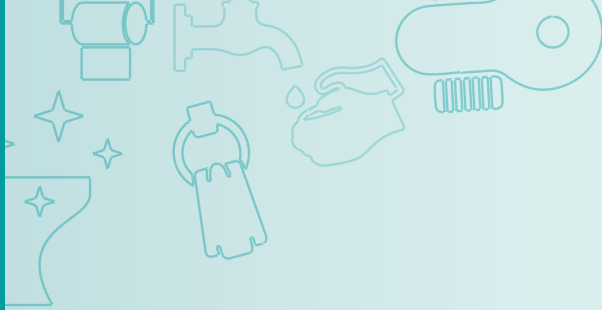


23 innovators presented to jury panels in each of the 3 IHUWASH cities. The panels comprised the municipal commissioners, key Smart City, and government officials, and academic and industry experts.

Based on the relevance of the innovation to address a pressing problem for the city:

- 3 innovations have been shortlisted for further discussions to implement pilots in Faridabad.
- 6 innovations have been shortlisted for further discussions to implement pilots in Udaipur.
- 2 Innovations have been shortlisted for further discussions in Mysuru.





Technical Session 2 Panelists (L-R: Mr. Vijay Sampath, Mr. Manohar Krishna, Mr. Chandrakant Komaragiri, Mr. Vinod Shankar, Mr. Vimal Govind, Ms. Sonal Jain, Mr. Snehit Prakash)

## TECHNICAL SESSION II

### Accelerating Innovations in WASH

The session highlighted the journey of the selected WASH entrepreneurs supported by the IHUWASH project, and the winners of the AMRUT Technology Challenge organised by MoHUA. The session focused on the various stages that an innovation goes through and the current challenges of upscaling them.

#### Session Chair – Mr. Vinod Shankar, Chief Operating Officer, Ginserv

##### Speakers:

- Mr. Chandrakant Komaragiri, Country Director, Ennovent
- Mr. Manohar Krishna, CEO, KamAvida Enviro Tech
- Ms. Sonal Jain, Co-Founder, Boondh
- Mr. Snehit Prakash, Director of Operations, Blue Water Company
- Mr. Vijay Sampath, Director, InnoDi
- Mr. Vimal Govind, CEO, Genrobotic Innovations



Mr. Vinod Shankar, Session Chair

The session was moderated by Mr. Vinod Shankar, Chief Operating Officer, Global Incubation Services. He set the context of the session with the following key points for discussion:

1. Are Market based WASH innovations is a sustainable model?
2. Challenges and opportunities the entrepreneurs encountered
3. Ability of an enterprise to deal with multiple stake holders of WASH Sector
4. Support and additional programs required for the success of WASH Innovations

### Mr. Chandrakant Komaragiri, Country Director, Ennovent

Mr. Chandrakant gave a brief overview about Ennovent as a business innovations catalyst for sustainability. He shared Ennovent's role of supporting the sustainable solutions for low-income markets, which can create long-term business value. He also shared how they are partnering with the private, public and other sectors to take novel business ideas to these markets in developing countries.

Talking about the Accelerator Programme under IHUWASH; he said that it aimed to connect impact focused social enterprises to different stakeholders, mainly with the ULBs who would be implementing the required city specific innovation/technology. The selected solutions will be implemented in the project cities during the project period.



Mr. Chandrakant Komaragiri

### Ms. Sonal Jain, Co-founder, Boondh

Sonal Jain spoke about her organisation Boondh; stating that it works on menstrual literacy, de-stigmatization and sustainable menstrual products. It is a social enterprise offering affordable, eco-friendly products to manage menstruation across socio-economic strata in India.

She highlighted the importance of an evolving start-up or innovator to be both profit driven, and impact driven to ensure survival and sustainability of the company. Regarding the use of Boondh; she mentioned that bringing out behavioural change in the mindset of the user towards adopting a new technology such as environmental-friendly menstrual cup over conventional non-biodegradable sanitary napkins is still a huge challenge. There must be a platform for collaboration and consultation to understand the ever-changing innovation space so that finding a solution together can be much easier.



Ms. Sonal Jain

### Mr. Manohar Krishna, CEO, KamAvida Enviro Tech

Kam Avida Enviro is an engineering private limited company, which offers services of cleaning and maintenance of civic infrastructure such as sweeping of roads, cleaning of underground drains and collection and transportation of municipal garbage to urban local bodies. The solutions also got second position in AMRUT Technology Challenge organised by MoHUA.

On speaking about innovations; Mr. Manohar Krishna said that profit based innovative model helps an entrepreneur to scale and improvise technology. Outsourcing the services provided by the ULB to a private enterprise will encourage expansion of WASH innovation.



Mr. Manohar Krishna

### Mr. Vijay Sampath, Director, InnoDI

InnoDI is a private limited company established in 2016. The company provides services in the space of water treatment solutions. The technology is a new generation of water treatment technology that is used to treat ground or surface water containing high dissolved salts and metals. It is a high recovery system requiring less energy and no chemicals to desalinate water. InnoDI created a platform to measure the success of the technology through impact assessment covering various aspects such as health impact, social impact, fluorosis reduction etc. this enabled InnoDI to build trust in the stake holders across WASH sector. Mr. Vijay Sampath mentioned that financial scale up and technology adoption are the two critical aspects an entrepreneur encounters. Creating a platform to nurture WASH innovation such as Accelerator programme under IHUWASH plays a key role in the whole development process.



Mr. Vijay Sampath



Mr. Vimal Govind

Having a good scalable business model based on for-profit model, ensures enough capital to sustain business in future.



### Mr Vimal Govind, CEO, Genrobotics Innovations

Mr. Vimal Govind gave a brief overview of their company Genrobotics, which is an engineering robot design and development company that develops a semiautomatic robotic system for manhole and sewer line cleaning. The company started in 2017 and was supported by the Kerala startup mission innovation grant. Genrobotics has also been commended for its innovative solution in the AMRUT Technology Challenge. The robot provides a solution for complete elimination of manual scavenging for cleaning of the manhole and positioning the pressurized jet in an accurate manner. He said that being engineers; he and his co-founder understand the dynamics of ULB's sanitation body. However, in the initial phase of the project, consistent finances are required for developing the product as well for pilot testing. He also mentioned about how CSR funds and investors are supporting the implementation in other cities. He suggested having a good scalable business model based on for-profit model, ensures enough capital to sustain business in future. He also acknowledged the support of media and platforms like IHUWASH project for information dissemination about the innovative solutions.

### Mr. Snehit Prakash, Director of Operations, Blue Water

Blue water company is a private limited organization with an objective to provide innovative decentralized faecal sludge management (FSM ) and treatment solutions. Their innovative FSM systems for municipalities are providing reliable, convenient and good quality transportation and de-sludging services.



Speaking about innovations; Snehit Prakash said that Inter play of the government, private organisation and donor agency in the market is must for growth of innovations in WASH. Dependency on user charges/tariffs, subsidies, government funds for a stand-alone social enterprise makes the operation of the business difficult. He emphasized that WASH policies and regulations must be strictly enforced to evade competitors entering the segment at under cut prices and avoid unsafe practises.

### Key Takeaways

Mr Vinod Shankar concluded the session by highlighting the following key points by the entrepreneurs.

- The entrepreneur should always develop adaptable, profitable, scalable and sustainable WASH innovations to ensure its survival in the market.
- Financial scale up and Technology adoption are the two critical challenges an entrepreneur would encounter
- It's important for an entrepreneur to have a good relationship between all level of stakeholders such as government, a private organization, donor agency for the growth of Innovations.
- There must be a platform for collaboration and consultation to understand the ever-changing innovation space and Creating a platform to nurture WASH innovation such as the Accelerator programme under IHUWASH plays a key role in the success of WASH innovations.

“



Mr. Snehit Prakash

Inter play of the government, private organisation and donor agency in the market is must for growth of Innovations in WASH.

”



## AMRUT TECHNOLOGY CHALLENGE

On 4th July 2018, the global technology challenge was launched to identify solutions for cleaning of sewers and septic tanks. It came to a grand close on 19th November 2018 on the eve of World Toilet Day. The challenge aimed to scope, scale and catalyze – technological and business solutions to eliminate non-essential human entry into septic tanks and sewers. USAID's lead implementing partner NIUA through its IHUWASH project and MoHUA had been entrusted to launch this initiative. IHUWASH team has worked as a secretariat for organizing the challenge. The key activities undertaken by the team includes preparation of the concept note, challenge methodology, selection of jurors, facilitating the evaluation process including demonstration of technologies by shortlisted candidates and coordinating with jurors, ministry and applicants for selection of winners.

34

9 expert jurors evaluate  
34 completed applications

12

12 potential solutions identified  
for further field testing and evaluations

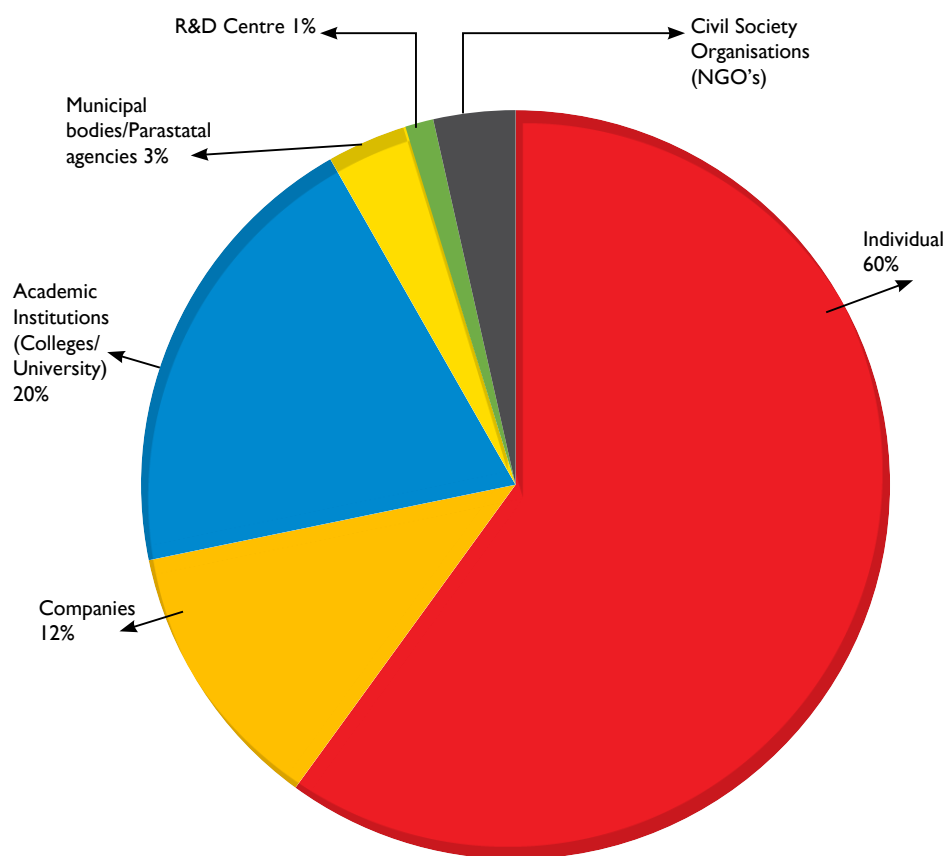
6

6 winners identified in 3 categories

### Summary of jury evaluation process

There were total 85 initial entries, out of which 34 completed applications were evaluated in the preliminary phase. 12 were selected for the final evaluation. After a thorough evaluation process; six winners were awarded under three categories on 19th November 2018 by the Honorable Secretary of MoHUA; Shri Durga Shankar Mishra. The details of the winning applicants are as follows;





Percentage distribution of all applications received

## WINNERS OF THE TECHNOLOGY CHALLENGE

### Category A – Network solution

- Hyderabad Metropolitan Water Supply and Sewerage Board
- Kam Avida Enviro Tech. Pvt. Ltd.
- Chennai Metro Water Supply and Sewage Board (CMWSSB)

### Category B – Onsite Sanitation System solutions

- Hoolock Technologies Pvt. Ltd.
- Water, Sanitation, and Hygiene Institute

### Special Category – Promising Innovative Solution

- Genrobotics Innovations Private Limited (also supported by IHUWASH accelerator).
- The winners of the Technology Challenge received token cash prize and will be encouraged to implement pilot project in select cities and also empaneled on the Govt's e-commerce platform, Government e Marketplace (GeM) portal.



## National WASH INNOVATION SUMMIT

Enabling Innovation Ecosystems for WASH  
20 November, 2018 | New Delhi



Technical Session 3 Panelists (L-R: Ms. Suneetha Kacker, Mr. Divyang Waghela, Mr. Mark Peters, Dr. Ravikant Joshi, Dr. Jyoti Parikh, Mr. Vineeth Menon)

## TECHNICAL SESSION III

### Innovative financing tools and procurement challenges in WASH

The session focused on unravelling innovative financing tools i.e. development impact bonds, equity, pooled finance, hedging instruments, microfinance, and credit ratings, to attract and sustain investments for procurement of innovative solutions in WASH projects.



Mr. Mark Peters, Session Chair

#### Session Chair – Mr. Mark Peters, WASH Team Lead, USAID, India

##### Speakers:

- Mr. Divyang Waghela, Head, Tata Water Mission at Tata Trusts
- Dr. Ravikant Joshi, Team Leader, Technical Support Unit, DAY-NULM, MoHUA.
- Dr. Jyoti Parikh, Executive Director, Integrated Research and Action for Development
- Mr. Vineeth Menon, Associate Vice President, Intellectap
- Ms. Suneetha Kacker, Urban infrastructure and Development Specialist

Mr. Mark Peters, WASH Team Lead, USAID India began the session by defining USAID's model of financing, which is made of four components. He mentioned that enabling ecosystem is the primary component of financing i.e. the law or governance through which the fund is used. But to facilitate that ecosystem; the other three components play an important role; financial infrastructure, people who will be accessing that finance or financiers, and people who are looking for this finance. Taking this forward, he asked the other eminent speakers of the panel to present their views on innovative financing tools.

### Mr. Divyang Waghela, Head, Tata Water Mission at Tata Trust

Mr. Waghela began the discussion by mentioning Tata Water Missions' work, which focuses broadly on three areas. First, on how to improve service delivery of safe sanitation and drinking water. Second, on innovations of technology, which is sustainable even during critical period of survival. The third aspect is developing innovative financial models. He said that the trust needs to look at how the shift from high subsidy to low subsidy to no subsidy should go by promoting new innovations in financing. He added that it also needs to develop innovative financial models and find out what could be the best combination of financing that can serve the WASH space. Mr. Waghela pointed out that this would entail long term investment in capacity building as well as operating models. The core base is the committed required in the institution's behavioral change communication that will aid change of mindset of not only the interveners and policymakers, but also the funders who are providing resources for the innovative space. This is what the trust is currently working on to achieve larger sustainable development goals in WASH.

Talking about the innovative financial model; Mr. Waghela narrated how with the support of Tata Trust, small entrepreneurs have started their journey and are becoming self-sustaining enterprises. Using the finances from Tata Trust as a collateral, these entrepreneurs take loans from banks to establish their businesses and become successful players in the sector by improving the service delivery. By giving this good example of Tata Trust Mr. Waghela said "The private resources could be actually used to play catalytic role on creating ecosystem and enabling environment for the entrepreneurs and the private sector".



Mr. Divyang Waghela

### Ms. Suneetha Kacker, Urban infrastructure and Development Specialist

Ms. Suneetha Kacker gave an overview about the necessity of bankable revenue model for a city, which may include combination of subsidies, user charges or grants etc. She highlighted that water and sanitation comes under service delivery sector, hence there is a need for both initial capital expenditure investment to build as an asset and a significant operation cost after installation of the asset for its delivery. So, if we are expecting a standard service delivery, we must have a good financial framework, which can bind service delivery and user charges.

Ms. Suneetha shared her experience of working with Bangladesh and Cambodia projects where the cash flow and user charges is the sole responsibility of ULBs. This bounds them to provide as per service delivery bench mark and helps them to sustain the system by collecting user charges as per services delivery.



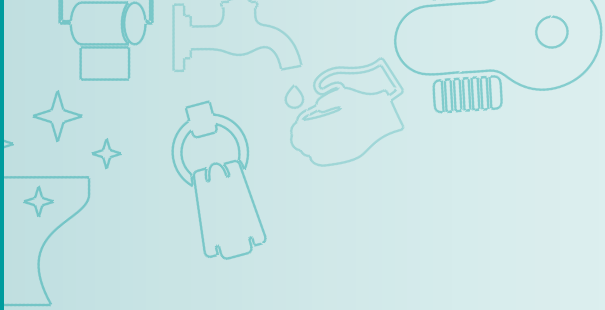
Ms. Suneetha Kacker

### Mr. Vineeth Menon, Associate Vice President, Intelicap Advisory Service Limited

Mr. Vineeth Menon shared his experiences on impact investment. He also stated that from beginning, one of the first challenges they faced was insufficiency of data in the water and sanitation sector. So the first effort made was to collect data by integrating technology. For social entrepreneurs again, it becomes a challenge to collate data as it involves a huge cost for them. To solve this, "Aavishkaar" from Intelicap group came up with simple impact matrix for the entrepreneurs to use for reporting. In later stage, this helped the investor to give discount in their bonds by seeing the impact return of the investment. He further added "This financial mechanism enables all the donor to put



Mr. Vineeth Menon



“



Dr. Jyoti Parikh,

Its critical for every stakeholder to know their roles and responsibility in terms of operation and finances to sustain the project for long

”

in their donor money and subsidize the returns which these private guys are getting. I feel impact of more impactful in such kind of mechanism”.

He further emphasized on the accelerator, incubator or technical assistance program in water and sanitation sector to leverage the latent and the potential of the entrepreneurs. This ultimately brings innovations in terms of technology, service delivery models or finances in the sector.

### **Dr. Jyoti Parikh, Executive Director, Integrated Research and Action for Development**

Dr. Jyoti Parikh shared her experience on utilization of donor's money. She said that creating an environment or ecosystem for projects; stakeholder consultation and selection of right and appropriate innovation for the project should be the role of donor money. User charges are one of the crucial things for the sustainability of the project. There are various types of financial needs for the service delivery of projects for water and sanitation, which includes capital expenditure investment, operational cost and new infrastructure development within the project. She added that its critical for every stakeholder to know their roles and responsibility in terms of operation and finances to sustain the project for long. She also mentioned that to maintain the service level benchmark we must not forgot them who are deprived of the resources.

### **Dr. Ravikant Joshi, Team Leader, Technical Support Unit, DAY-NULM, MoHUA**

Dr. Ravikant Joshi shared his view on the current trends of municipal finances in India. He said that the ULBs who are main the main frontier institutions are not delivering the services properly, hence they will not able to bear the money of operational cost of service delivery from user charges. He remarked that, “When ULBs are 80 or 90% dependent on the higher-level Government for operational and maintenance and 100 %for capital investment ; we are creating a sort of a situation where you are creating infrastructure, which would be difficult to manage’.





Dr. Ravikant Joshi

“



Mr. Vineeth Menon

Accelerator, Incubator or Technical Assistance program in WASH sector is required to leverage the latent and the potential of the entrepreneurs

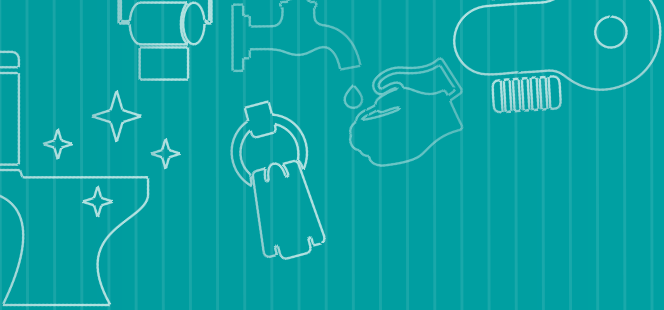
”

To overcome the current situation; Dr. Ravikant proposed a transparent city to city, project to project viability gap study, where municipality could understand the gap between operational cost of the project, cost recovery options and amount of actual viability fund required, and based on that they must build capacities in our ULBs to conduct this kind of rational viability gap analysis.

### Key Takeaways

Mr. Mark Peter summarized the session by focusing on the importance of financial model as one of solutions to overcome the WASH sector challenges. He highlighted key takeaways of each speaker:

- Mr. Divyang Waghela mentioned about innovation in using collaterals for becoming a successful entrepreneur.
- Ms. Suneetha Kacker addressed the necessity of a bankable revenue model for a city, which may include combination of subsidies, user charges or grants etc.
- Mr. Vineeth Menon emphasized on the accelerator, incubator or technical assistance program in water and sanitation sector to leverage the latent and the potential of entrepreneur.
- Dr. Jyoti Parikh stressed on the utilization of donors money on creating an environment or ecosystem for the project, stakeholder consultation, selection of right and appropriate innovation for the project.
- Dr. Ravikant Joshi shared the importance of viability gap study to understand the gap between operational cost of the project, cost recovery options and amount of actual viability fund required.



## GLOBAL HANDWASHING DAY CELEBRATIONS

**October 15 is celebrated as Global Handwashing Day; a global advocacy day dedicated to increasing awareness and understanding about the importance of handwashing with soap as an effective and affordable way to prevent diseases and save lives.**

Hygiene is an important component of the IHUWASH project, and Global Handwashing Day provided a golden opportunity for capacity building and organizing a sensitization program for sanitation workers and school students in the three project cities of IHUWASH, with the help of the WASH Labs. For the first time, IHUWASH partnered with Savlon for the events organized at schools in Udaipur and Faridabad. Savlon supported the Events by providing hygiene kits for the students.

### CITY-WISE CELEBRATIONS AND IMPACT

#### MYSURU

With the support of WASH Lab at NIE, Mysuru, an awareness campaign to sensitize the importance of hygiene amongst city sanitation workers "Pourakarmika" who are a part of Mysuru City Corporation (MCC) workforce. Sensitized:

- 176 Pourakarmikas from MCC
- 50 workers from NIE
- 136 were female workers



*Mr. Jagdeesha, Commissioner, MCC, addresses the gathering on importance of hygiene*



*Inaugurating Global Handwashing Day event by Washing Hands*

## UDAIPUR

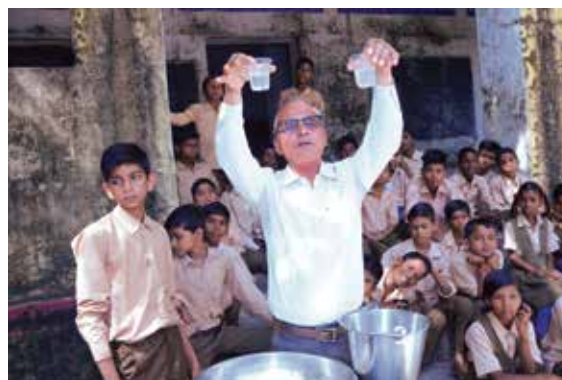
With the support of Udaipur Municipal Corporation and WASH Lab at Geetanjali Institute of Technical Studies interschool competition followed by hygiene awareness activities was organized for school students from underprivileged sections

Sensitized:

- 550 students from Government Upper Primary School (Pahara) & Government Upper Primary School (Eklavya Colony)
- 212 participated in various awareness competitions.



Winners of Inter School Competition organised at Government Upper Primary School Eklavya Colony, Udaipur



Deputy Commissioner of UMC addressing students on importance of hand washing

## FARIDABAD

With the support of Municipal Corporation Faridabad (MCF) and WASH Lab at Manav Rachna International Institute of Research & Studies (MRIIRS) an awareness program was organized at Govt. Girls Senior Secondary School, No.5, NIT Faridabad. The theme for competitions was 'Clean Hands - A recipe for Good health'.

Sensitized:

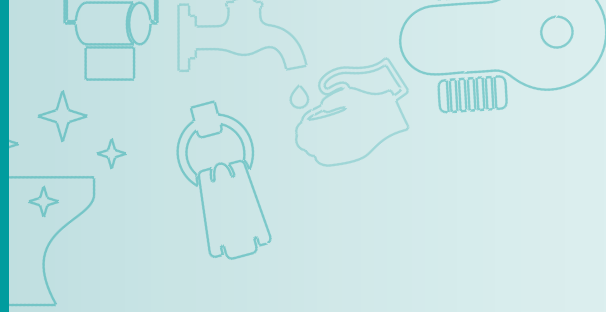
- 350 students along with 10 school teachers and 4 municipal officials.
- 126 participated in various competitions.



Participants of Global Handwashing Day at Government Girls Senior Secondary School, No.5, NIT Faridabad



Drawings prepared by the participants of the Competition



Technical Session 4 Panelists (L-R: Ms. Arundhati Das, Mr. KG Venkateswaran, Ms. Pooja Singh, Ms. Priyanka Dutt, Mr. Mohammed Asif)

## TECHNICAL SESSION IV

### Amplifying the role of innovations in the WASH sector

In this session, experiences of implementing innovative solutions with community participatory approach was shared. The session focused on how effective information, education and communication is (IEC) playing a significant role in amplifying innovative solutions in WASH sector.



Ms. Arundhati Das, Session Chair

#### Session Chair : Ms. Arundhati Das, Manager, Manager- Water, Sanitation and Hygiene, RTI International, India

##### Speakers:

- Ms. Pooja Singh, Head, Program Monitoring and Evaluation, Safe Water Network
- Mr. Alok Dasgupta, Team Lead, Centre for Urban and Regional Excellence
- Ms. Priyanka Dutt, Country Director, India, BBC Media Action
- Mr. Mohammed Asif - Director, Programme Implementation, PLAN India
- Mr. KG Venkateswaran, Co-Founder and Director, Auriga Consultancy and Management Services Private Limited.

Ms. Arundhati Das set the context of the session by giving a brief introduction to WASH innovations, its process, financing models, technology and communications. She said that IHUWASH is an innovative platform to bridge the demand and supply gap by providing innovative technology and business solutions. She mentioned that one of the most critical aspect to amplify the role of innovative solutions is communications. She raised the following key questions to the panelists of the session to discuss the role of effective IEC in implementing and amplifying innovative solutions in WASH sector:

1. What is the experience of individual panelists in implementing the innovative solutions?
2. What is the role of communication in amplifying the innovation and innovative platforms like IHUWASH?



3. How can communication be effective for Monitoring and Evaluation to be able to amplify innovations?
4. What are the key elements that amplify the innovative solutions with a focus on social media and digital apps?

### Mr. Alok Dasgupta, Team Lead, Centre for Urban and Regional Excellence

On implementation of innovative solutions, Mr. Alok Dasgupta said that due to the flagship programs by the Government in the last 4-5 years; ULBs have started showing interest in discussing innovative ideas and solutions and how to work on it. But to implement them; a lot of effort is required in planning and strategizing so that people at the implementation level understand and appreciate it and take it to the ground, the way it has been conceived originally.

He further mentioned that ULBs have three pillars; elected representatives, bureaucrats and the technocrats, and all the three need to work in sync with each other to ensure the continuity, quality, efficiency and timely completion of the works.

He spoke about the geographic information system (GIS) application namely SANMAN developed by CURE, which is being used by 13 ULBs in the country. This application is helping in converting data to relevant maps, bringing together different stakeholders to discuss the things transparently and arrive at a well thought decision.

Mr. Dasgupta further added that on ground; community is an important stakeholder and resource; whose strength needs to be tapped and understood. Operational expenditures of the assets created for the community through WASH programs is another important aspect and communities should take charge of the operational expenses. For effective communication, there is a need to work efficiently with the communities, and encourage them to develop different instruments for successful operation and maintenance of the assets.

He also remarked that lots of innovation is possible in India as we have more than 4500 ULBs. He cited the example of M WASH in Kenya as a success story in the WASH sector.

Mr. Dasgupta concluded by saying that like in other sectors; we should try adding value in the product or service to be used by the user in the WASH sector too. This will ensure wider participation and continuous engagement of the user.

### Mr. Mohammed Asif, Director, Programme Implementation, PLAN India

Mohammed Asif briefed about PLAN India's efforts to address WASH demands in schools. Engaged with more than 1000 schools to improve the WASH facilities in their campuses; he mentioned that stakeholders themselves don't know what is good for them and they demand for replication only after they understand the product or service. He quoted that in Delhi, over the last few years, WASH infrastructure has seen tremendous development due to push that comes through governance and communication.

He emphasized that it's not only about the infrastructure but also services. Effective IEC plays a key role in pushing the use of available services among the stakeholders. Initiatives like peer educators, champions of change, reward recognition, comics, games, etc. along with key influencers for behavioral change should be part of every communication.

“



Mr. Alok Dasgupta

Community is an important stakeholder and resource, whose strength needs to be tapped and understood.

”



Mr. Mohammed Asif

He concluded by saying that a lot of investment has been done for creating assets but very limited for communication and information dissemination. We also need to understand how do we drive more investment into communication as market will only push those ideas which are profitable.

### **Mr. K.G. Venkateswaran, Co-Founder and Director, Auriga Consultancy and Management Services Private Limited.**

In his address Mr. Venkateswaran began by sharing an experience stating that 5-6 years ago, while working with fast moving consumer goods (FMCG) marketing team for food and nutrition products in rural areas; management decided to break in the urban poor market with same strategy, marketing and financial model and products. The team tried and failed miserably. They assessed their approach and realized that the team read the potential consumer incorrectly. The organization's aspiration was different from the people living in rural areas. Story telling model works well in rural areas as they have limited exposure to the media, but the same doesn't work for urban poor sector as their exposure to media or internet is very high. Urban poor has aspiration for their life and future. Hence, they align their approach catering to their end users' needs and made significant growth in urban poor sector. Mr. Venkateswaran further remarked that there are lessons outside the sector, which we need to integrate communication with the community for successful stories.

He stated that in development sector micro or nano apps are used, which do not sustain for a longer time as it is applicable over a smaller geography with little outreach. So, there is a need for series of funding with regular investment to get more recruitments for the program and geographical upscaling. There are lot of apps in market but none of it has reached that scale to become a viable and sustainable proposition.

Mr. Venkateswaran also mentioned that currently the lifecycle of a product is only for 3-4 years because with change in leadership; there is a regular change in the position of a product and services. Due to lack of consistency in the messaging and campaigning, end users get confused. For the success of a product or service, there is a need to disseminate a clear message over a longer period. If marketing of a product or service is stopped then its space in people's mind will be replaced by some alternative product or service. So, there is need of regular investment, marketing and communication.

### **Ms. Pooja Singh, Head, Program Monitoring and Evaluation, Safe Water Network**

Ms. Pooja Singh shared her views on how monitoring and evaluation helps to amplify innovations. She spoke about how Safe Water Network during its initial stage setup a safe drinking water station to provide affordable drinking water to rural community. They have their unique remote monitoring panel in their stations through which they track their system and fix any kind of issue with minimum down time.

In terms of innovation, Safe Water Network developed online tools with the support of USAID, which helps to improve service delivery technology selection, plant assessment and financial viability. She concluded by saying that Safe Water Network ensures participation of the community by organizing various kinds of IEC programs to ensure the sustainability of the water stations.

“



Mr. K.G. Venkateswaran

If marketing of a product or service is stopped then its space in people's mind will be replaced by some alternative product or service. So, there is need of regular investment, marketing and communication

”



Ms. Pooja Singh



### Ms. Priyanka Dutt, Country Director BBC Media Action

Ms. Priyanka Dutt expressed her views on the role of communication to amplify innovations so that it can reach out to people. The objective or goal of communication and target audience is the most fundamental thing. While designing communication plan for a particular project; we must consider the other important needs of our target audience along with the project goal. To explain this, Ms. Priyanka gave an example study done by United Nations which shows more people in India have access to a mobile phone than to a toilet, and therefore clearly shows that the need for communication is more urgent than creating the sanitation asset.

Ms. Priyanka also shared the way BBC Media Action's activities are targeting audience of various levels to spread awareness on sanitation through short radio programs using the character Saucha Singh who helps to break all types of sanitation myths belonging to the community. She added that communication of a product must reach to the people with full details otherwise it will be complete waste of time.

She also mentioned about two innovative services of BBC Media Action i.e. Killari and Mobile Academy, reached maximum number of beneficiaries in 13 states of India. These services were specially designed for pregnant woman to young mother and Accredited Social Health Activist (ASHA) workers. "Implementation of innovation is as much important as design of innovation", said Ms Priyanka Dutt.

### Key Takeaways

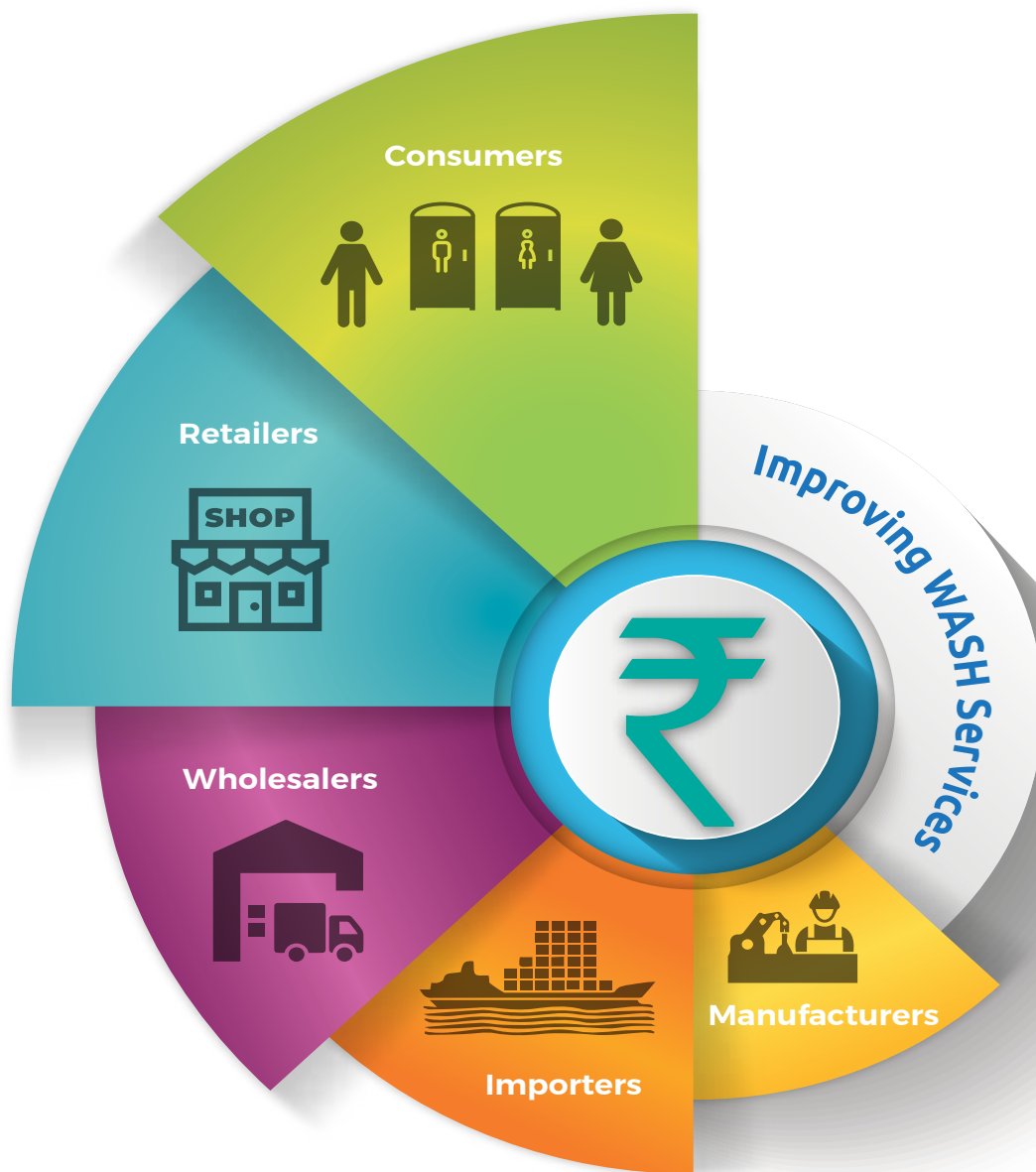
Ms. Das concluded the session by highlighting the importance of IEC for amplifying the innovative solutions in WASH sector. Further, she mentioned the following key remarks by;

- Mr. Alok Dasgupta highlighted that on ground, community is an important stakeholder and resource. Effective communication is needed to get them along for efficient working in WASH sector projects.
- Mr. KG Venkateswaran mentioned that for continuity of a product or service of WASH sector, opportunities need to be explored to involve private sector for amplification of small prototypes or product or services to a larger geography and wider audience.
- Ms. Priyanka Dutt said that communication or message should be clear to the audience. For success of the campaign, one should know that who are the target audience, what is the product or service and how do people demand.
- Mr. Mohammad Asif, he emphasized that communication is not only about the infrastructure but also services. Effective IEC plays a key role in pushing the use of available services among the stakeholders.
- Ms. Pooja Singh highlighted the need of participation of community by organizing various kind of IEC program which will further ensure the sustainability of our water stations



Ms. Priyanka Dutt

While designing communication plan for a particular project; we must consider the other important needs of our target audience along with the project goal.



## **WASH ECONOMY STUDY IN IHUWASH PROJECT CITIES: FARIDABAD, UDAIPUR AND MYSURU**

Toilet Board Coalition Report 2017 study indicates that currently, the sanitation economy in India is US \$32 billion annually, and it is all set to double (US \$62 billion) by 2021. WASH sector supports a considerable bulk of the regional business potential; thereby, generating significant formal and informal livelihood options, and contributing to the overall economy.

To understand the economy of WASH in urban India with a focus on the project cities: Udaipur, Mysuru & Faridabad; a study was attempted by the IHUWASH project. The assessment was limited to include formal and informal markets as well as services offered in the sector and based on primary and secondary data sources. The primary data collection was done by ensuring adequate representation of key sanitary hardware, fast moving consumer goods (FMCG) product manufacturers and wholesalers. Assessment provided significant takeaways and insights on the potential of WASH product development, market enhancement and WASH related services. The study revealed that domestic WASH businesses have considerable market knowledge (local) and penetration too. However, there is a lack of capacity for innovative WASH product development, marketing strategies, and access to finance for development of products. With the huge penetration of internet and smartphones in India, online trading and service delivery is on the rise.



*Launch of the WASH Economy Report (L-R: Mr. Anand Rudra, Dr. Manish Varma, Mr. S. Shamsundar, Dr. Girija Bharat, Prof. Jagan Shah)*

A rough estimate based on investigations in three study city indicates that from manufacturing to wholesalers, retailers in the local market the sanitation economy in the three study cities ranges anywhere between INR 900 million to INR 3,0000 million per annum. Interesting the conservative estimates indicates that the WASH service are quite significant and range INR 60 million to INR 250 million.

## KEY RECOMMENDATIONS OF THE STUDY

- New hubs encouraging the manufacture of WASH products such as sanitary hardware as well as related FMCG need to be developed.
- Government could facilitate and incentivize scaling domestic and small-scale private sector development in WASH sector.
- The need for certification across sanitation verticals such as construction and plumbing has emerged as a key focus area in order to create demand for qualified professionals. To facilitate this, the National Skill Development Corporation (NSDC) can play a pivotal role by introducing a certification process for masons and plumbers.
- App-based WASH services will see sharp rise in near future and hence facilitating service providers with a policy to mark their presence online will not only expand the services but also help them come into the formal sector from the informal sector.
- Supply chain management in WASH products is still conventional and has tremendous potential to grow through online marketing and customer service.
- Many of the bigger brands of sanitation related products are supporting skills training to plumbers and masons for installation of their products. They could extend this service towards increased skilling and thereby helping to create improved income potential and at the same time supporting higher quality services to the consumers.
- Education and public awareness in the WASH sector is very important and a must requirement for effective use of sanitary and FMCG products.
- Extensive training of mason/plumbers also including eco-sanitation, identification of quality materials, water saving options, etc. should be conducted in urban sanitation sectors, where the need is more towards service-based solutions, hard-core engineering and infrastructure development.



Mr. V.K. Madhavan

“While designing communication plan for a particular project; we must consider the other important needs of our target audience along with the project goal.”

## SPECIAL ADDRESS:

### On Role of Innovation to Make Transformational Impact in Urban Wash Sector

By Mr. V. K. Madhavan, Chief Executive, WaterAid

Mr. V. K. Madhavan, in his keynote address on the role of innovations to make transformational impact in urban wash sector emphasized on two important aspects i.e. Emerging challenges in the WASH sector in India and the need for innovation in the context of Urban WASH.

Talking about Water, Sanitation and Hygiene: Emerging Challenges in India, he mentioned that access to safe and good quality drinking water, particularly to urban poor is necessary. Over extraction of groundwater far more than our ability to recharge makes the ground water source vulnerable and unsustainable. While speaking about sanitation facilities, he pointed out that the challenges regarding access to toilets for the urban poor is due to space constraints. This requires innovative technology and a proper operation and maintenance system of the public toilets. The safety and health of sanitation workers is also a major concern. Lack of institutional capacity, inadequately trained and skilled personnel in ULBs, along with inefficient financing models, poor policies and regulation enforcements too are a major hindrance in the proper implementation for WASH infrastructure by the ULBs.

The session focused towards the need for innovation in the context of urban WASH sector. Mr. Madhavan mentioned that there is a tremendous scope for innovation in urban governance and effective citizen interface, which will enable interaction between citizens and the ULBs for improved governance. Innovation in policy and regulation will ensure that the ULBs are able to provide service providers. An effective operation and maintenance system of public/community toilets with some amount of subsidy to keep the service utility going.

Few of the other effective innovative measures mentioned are as follows:

1. Innovation in the field of water conservation and judicious use of resource
2. Innovation in regulation and standards to ensure safe sanitation practices
3. Innovation in institutional clearance and procurement policy
4. Innovation in new financing model to bridge the financial gap while creating, operating and maintaining a WASH asset.
5. Technological innovation in the field of water quality testing, rainwater harvesting, treatment of grey and black water, safety and health of sanitation workers

In his closing remarks, Mr. Madhavan said that Innovation in WASH space is not just about technology solution but also innovations across Institution framework, financing Models, Policies and regulation and Innovation in data driven approach for decision making.

# EXPERIENCES FROM THE ATAL INNOVATION MISSION

By Ms. Ishita Agrawal, Manager, Atal Innovation Mission, NITI Aayog

Ms. Ishita Agrawal shared the experience of The Atal Innovation Mission (AIM) with the Summit participants in this special session. She mentioned that AIM is a flagship initiative set up by the NITI Aayog to promote innovation and entrepreneurship across the length and breadth of the country, based on a detailed study and deliberations on innovation and entrepreneurial needs of India in the years ahead.

AIM is envisaged as an umbrella innovation organization that would play an instrumental role in aligning innovation policies between central, state and sectoral innovation schemes incentivizing the establishment and promotion of an ecosystem of innovation and entrepreneurship at various levels. Atal Incubators promote entrepreneurship in universities and industries.

At the universities, NGOs, small and medium enterprises (SMEs) and corporate industry levels; AIM is setting up world-class Atal Incubators (AICs) that would trigger and enable successful growth of sustainable startups in every sector /state of the country, thereby promoting entrepreneurs and job creators in the country addressing both commercial and social entrepreneurship opportunities in India and applicable globally. AIM is also providing support to scale up existing incubators for augmenting their operations. Women led incubators and entrepreneurial startups are strongly encouraged by AIM.

Atal Tinkering Labs are dedicated works spaces where students (Class 6th to Class 12th) learn innovation skills and develop ideas that will go on to transform India. The labs are powered to acquaint students with state-of-the-art equipment such as 3D printers, robotics & electronics development tools, internet of things (IoT) and sensors etc. The lab activities have been designed to spur the spark of creativity, and go beyond regular curriculum and text book learning. The labs allow students to explore skills of future such as design and computational thinking, adaptive learning and artificial intelligence.

Since the beginning of the program; in the last 18 months, AIM has selected over 5000 schools where tinkering labs will be set up. 2000 lab have already been set up and are operational. By the end of March 2019 remaining 3000 Lab will be operational.

So far AIM has selected 101 incubators, where these organizations will be helped to set up the incubator from scratch. 30 incubators are operational right now and have supported more than 500 startups across different sector including rural, agriculture, WASH etc.

She concluded by stating that AIM, during its mission period is trying its best to provide a platform where innovators will be supported right from initial innovation conceptual stage to pilot followed by procurement stage. She congratulated IHUWASH team for organizing this Summit.



Ms. Ishita Agrawal

AIM; during its mission period will try its best to provide a platform where innovators will be supported right from initial innovation conceptual stage to pilot followed by procurement stage



# SUMMIT FOLLOW UP MEETING



# FOLLOW UP ROUNDTABLE MEETING

## Brainstorming meeting for charting the way forward of the National WASH Innovation Summit


A roundtable meeting on the National WASH Innovation Summit was held on 19th December at NIUA. The meeting was held as a follow up on the submission of the key findings of the WASH Innovation Summit held on November 20, 2018 to MoHUA. The meeting was attended by Prof. Jagan Shah, Former Director, NIUA, Mr. Mark Peters and Mr. Anand Rudra from USAID, Ms. Ishita Agarwal and Mr. Mudit Narain from Atal Innovation Mission, NITI Aayog, Mr. Chandrakant Komaragiri and Mr. Aditya Tejas from Ennovent, and the IHUWASH team at NIUA, Delhi.

The roundtable was held to discuss the key takeaways of each Technical Session of the Summit, the recommendations which were suggested by the Session speakers and the overall outcome of the Summit, which would aid Innovation Ecosystems such as the Innovation Hub for Urban Water, Sanitation and Hygiene Solutions.

The discussion points from the meeting helped give direction to this Summit Report; "Roadmap for Promoting Innovative Solutions in WASH Sector". The way forward from the meeting generated a common idea of coming up with a Business Model to scale up the innovations or for micro-utilities and propose it to the Ministry as a submission along with the Summit Report.

### Minutes of the Meeting

1. Prof. Jagan Shah welcomed the participants and set the context of the meeting by sharing the Ministry's keen interest to support an Innovation ecosystem in the WASH sector. While defining the key outcomes of the inaugural session of the Summit, he emphasized the Minister's idea on the need of innovative financing, developing sustainable partnerships, and to ensure that the entire life cycle of the project be considered for ensuring impact. He also discussed on the opportunity of leveraging the corporate social responsibility (CSR) funds, and sought NITI Aayog's viewpoint on it. He presented the key takeaways of each Technical Session from the National WASH Innovation Summit. After his presentation, a representative/moderator of each Technical Session spoke about the key takeaways of the individual session discussion.
2. Mr. Chandrakant and Mr. Aditya gave a brief of the Technical Session 2 on Accelerating Innovations in WASH. They mentioned the following outcomes from the session :
  - To ensure sustainability and scaling of innovations, for-profit models are required.
  - Platforms like WASH Accelerator component of Innovation Hub for Urban Water, Sanitation, and Hygiene Solutions in India (IHUWASH) helps innovators to connect with the Government who is a key client for scaling the WASH Innovations.
  - Through IHUWASH, twelve innovative ideas have been supported and few



of them are likely to be pilot tested in the cities. The entire process of finding these innovations, presenting the solutions to municipal corporations, technical institutions, sector experts, private sector at city level, based on the need of the city shortlisting of innovations by the committee, and pilot implementation experiences needs to be documented in form of guidance/toolkit/ report. The report will be a guiding document for other urban local bodies as well as for the innovators for procuring and upscaling innovations.

- On the potential of unlocking the CSR funds, they shared the experiences of interest shown by the private sector to bridge the gap funding for pilot testing of few innovations supported under IHUWASH project. In addition, Ennovent also shared that platforms like Summits, Webinars have also helped the innovators to present the solutions to the government i.e. the biggest client and also attract investors. He mentioned the upcoming Webinar in January – February 2019 for investors in Europe who are interested in projects contributing in achieving the Sustainable Development Goal 6 – Clean water and sanitation for all.
  - To continue the support beyond IHUWASH project, Ennovent is working to develop the business partnership for connecting the innovators with large companies.
3. Mr. Anand Rudra enquired on Ennovent's mobilizing CSR funds to which Mr. Chandrakant responded that ULBs have agreed to fund few pilots supported by IHUWASH. In some cases, they have also agreed to partly fund the implementation, in such cases, the gap funding will be targeted through CSRs. Mr. Mudit Narain enquired about the 12 selected innovations. Mr. Aditya gave an overview of each solution and concluded that the technology of each innovation is proven, however, the business model needs scaling up. Mr. Mudit stated that Gurugram based Sangam incubator runs good accelerator programs in the WASH sector.
  4. On the challenges of procurement of innovations, Prof. Jagan Shah pointed out that pilot testing at the city level is beginning, but It is difficult to get a city to validate a pilot and then procure the innovation for the future. However, the inclusion of innovations in a proposed state manual could be useful in scaling and testing innovations in the cities. The process can be captured right from the beginning while setting the platform for acceleration of innovations. On this, Mr. Anand Rudra suggested to make sure that all dots are connected, enabling conditions are provided and related international case studies are provided. Prof. Jagan Shah also mentioned that actually mainstreaming innovations requires a huge amount of investment and hand- holding to deliver the outcome.
  5. Mr. Mark Peters gave an overview of Technical Session 3 on Innovative financing tools and procurement challenges in WASH:
    - Private Sector has a key role to play
    - In order to push forth innovations, it is important to move towards service delivery approaches and service - based contracts.
    - There is a need to identify and sharing risk properly.
    - There is a need for transparency in revenue flows i.e. how much it costs, reliable revenue stream, and frameworks wherein contracts are honored.
  6. He reiterated that impact is important. For e.g. in Swachh Bharat Mission, the objective is to achieve open defecation free (ODF) and it does not matter whether

to achieve these; public toilets are constructed or not or it can be achieved through other innovative approaches. Prof. Jagan Shah also pointed out that if we need to achieve our target, impact is important. To achieve that, aim is not to get products in the market but to achieve the outcomes/goals. For eg. one of the innovator, PeeBuddy has developed a low-cost interim alternative to reduce toilet related infections amongst women by using female urination device that women can use to stand and pee when they don't have an access to clean toilets. Mr. Mudit also mentioned that messaging is also important for eg. The purpose of SBM is to achieve ODF rather than only construction of toilets. He pointed out that selling impact is difficult but outcomes can be defined.

7. Mr. Mudit Narain said that we do not necessarily have every technology reviewed. Learnings of market development and standardization of innovations in promoting renewable energy i.e. solar can be useful. On challenges, he pointed out that procurement of innovations is still difficult. Commercialization of innovations is a fairly recent phenomenon. Procurement system was always for commercial products. Nobody thought of deployment of innovations in technology through startups. India understands economic benefits and costs more than financial benefits and costs. CSR or donor funds can implement pilots but public funding is required for scaling up. He gave the example of LED lights project in Bhubaneswar Orissa. He also shared the example of how Haryana Govt. using the Impact Bonds in the education sector which is linked to outcomes, he suggested health and sanitation could also work using Development Impact Bonds (DIB) structure. He cautioned that very often output based measurements are technology – based, therefore an understanding of the measurements need to be thoroughly understood. We may have to use the existing system efficiently as sometimes technology agnostic models may not be available in the sector.
8. Prof. Jagan Shah too pointed out that impact financing is becoming very important and transparency in revenue flow will be useful through public disclosure system in the WASH sector. He also confirmed that DIB paradigm is great if we are able to adopt it for micro-utilities. He suggested that we need business models that deliver efficient services.
9. Ms. Ishita Agrawal also gave a brief of Atal New India Challenge (ANIC) program under MoHUA. She mentioned that MoHUA can adopt IHUWASH paradigm and then DIB can take care of the payment issues. She suggested there is a need to create a DIB model, which is not sector agnostic and is governed by good planning. Mr. Mudit also pointed out that government follows the tendering process but a quality check of these tenders is required.

The Roundtable was summed up by Prof. Jagan Shah as follows:

To support innovations in the sector, IHUWASH cities, and other cities wherein USAID projects are being implemented will be extended all support.

The key takeaways of the National WASH Innovation Summit will be presented to the Ministry in form of a report with a clear asks for enabling policy and procurement support.

A draft note on a business model needs to be prepared, which can be replicated and localized in Indian context.

# SPEAKERS AT THE SUMMIT

## (Session-Wise)



*Shri Hardeep Singh Puri, Hon'ble  
Minister of State (Independent Charge)  
in the Ministry of Housing and Urban Affairs*

**Shri Hardeep Singh Puri**, Hon'ble Minister of State (Independent Charge) in the Ministry of Housing and Urban Affairs was born in Delhi on 15 February 1952. He did his BA (Hons) History from Hindu College, University of Delhi and was placed first in order of Merit in 1971 and completed his MA(History) 1973 in the First Division.

He served on three occasions as a member of India's delegation to the GATT/United Nations in Geneva including as Ambassador and Permanent Representative from 2002 to 2005.

He was President of the United Nations Security Council in August 2011 and November 2012 and Chairman of the United Nations Security Council Counter-Terrorism Committee in 2011-2012.



*Mr. Mark White  
Former Mission Director  
USAID India*

**Mr. Mark Anthony White** was sworn in as the USAID/India Mission Director on February 24, 2017. Mr. White began his career with USAID in 1995, and is a career member of the Senior Foreign Service with the rank of Minister Counselor. A former United States Peace Corps volunteer, Mr. White has worked in over 30 countries across four continents. Mr. White has worked extensively with the U.S. interagency including the Department of Defense and prior to his arrival to India was a Professor at the U.S. Army War College where he taught a course on international development. Born in Cleveland, Ohio, Mr. White received a Bachelor of Science Degree (Chemistry) from Xavier University of Louisiana and a Master's in Public Health from the University of North Carolina at Chapel Hill.



*Prof. Jagan Shah, Former Director  
National Institute of Urban Affairs*

**Prof. Jagan Shah** is currently a Senior Infrastructure Adviser at Department for International Development (DFID). He served as the Director of National Institute of Urban Affairs from April 2013 to April 2019. Prof. Jagan Shah has 20 years of professional work experience in various aspects of urban development in India. He studied Architectural Design from School of Planning & Architecture (SPA), New Delhi and Architectural History & Theory from the University of Cincinnati and Columbia University, USA.



*Shri Anjum Parvez, Secretary,  
Urban Development Department,  
Government of Karnataka*

**Shri. Anjum Parvez** is an IAS Officer of 1994 batch. Prior to his current position as the Secretary of the Urban Development Department, Government of Karnataka; he has served as the Managing Director, Bangalore Metropolitan Transport Corporation.



*Dr. D. G. Nagaraju, Health Officer and IHUWASH Nodal officer, Mysuru Municipal Corporation*

**Dr. D. G. Nagaraju** has been working in public health sector since past 18 years. He has perused Medicine degree and Diploma in Public health from Mysore Medical College and has been working as Health officer in Mysore City corporation from past 4 years. Prior to this he was working with Department of Health and Family Welfare. Currently He's the Nodal officer for both Swachh Bharat Mission (Urban) and IHUWASH Programme.



*Dr. Sarita Sachdeva, Professor, Manav Rachna International Institute for Research and Studies, Faridabad*

**Dr. Sarita Sachdeva** has 23 years of experience in Teaching and Research. Her area of expertise is Bioremediation and Biofuels. She Published books, chapters and numerous research papers in indexed journals of international and national repute. Actively carrying out research through funded projects within and outside the country and have also filed patents. Working on several key R&D projects. She has been awarded a Start-up company under Prime Minister's Start-up initiative funded by IOCL, R & D Centre, Faridabad.



*Mr. Hansraj Choudhary, President UCCL, Rajasthan*

**Mr. Hansraj Choudhary** often felicitated as Icon of Mewar is the 21st President of Udaipur Chamber of Commerce & Industry (UCCL) and Managing Director of Choudhary Offset Pvt. Ltd., Udaipur. He was elected Asst. Governor Rotary Dist-3050 for the year 2010-2011 and was the President of Rotary Club of Udaipur Mewar between 2003-2004.



*Mr. Mahesh Harhare, Chief Resilience Officer, Pune, 100 Resilient Cities*

**Mr. Mahesh Harhare** works as Chief Resilience Officer for Pune city as part of the 100 Resilient Cities (100RC), pioneered by The Rockefeller Foundation. His mandate is to prepare Resilience Strategy for Pune city. He has 14 years of experience in the field of urban management and urban governance

And has worked in advisory capacity for clients such as ADB, IFC, GIZ, USAID, BMGF; various state governments and more than 40 Urban Local Bodies in India. Mahesh has done MTech in Urban Planning after his graduation in Civil Engineering. He has also done Executive program in Management from IIM Calcutta.



*Ms. Manvita Baradi Director, Urban Management Centre*

**Ms. Manvita Baradi** is the Founder Director of Urban Management Centre (UMC) and has about 23 years of technical experience in developing and administering programs for Local Governments, capacity building , citizen participation, municipal performance measurement and international development. She is also a Professor and Dean of the Faculty of Management, CEPT University. She has been the technical consultant and team leader for USAID (United Agency for International Development) supported urban governance programs in India, Afghanistan, Indonesia and Srilanka She is a specialist on Urban Management E-courses and E learning for Municipal Functionaries by the Ministry of Housing and Urban Affairs (MOHUA), Government of India.



*Mr. Vinod Shankar,  
Chief Operating Officer, Ginserv*

**Mr. Vinod Shankar** has over 16 years of experience in the start-up environment with emphasis on sales and marketing, investments, business development, client relationship management, and team management. Vinod Shankar operates incubation and acceleration programs that provide an ecosystem for the benefit of emerging entrepreneurs. Over 150 start-ups including WASH innovations, ICT, have graduated from the incubation center. His efforts have resulted in GINSERV being ranked one of the best University affiliated incubators by UBI Global, 7th best incubator by Entrepreneur magazine, Diamond level incubator at ISGF awards.



*Mr. Chandrakant Komragiri,  
Country Director, Ennovent*

**Mr. Chandrakant Komragiri** has over 8 years of work experience in the social enterprise and development sector. He serves as Country Director of Ennovent India, guiding business development and project execution across different sectors including WASH, mental health, and environment. He also manages the portfolio companies of Ennovent Fund, which invests in enterprises focused on sustainable impact. Chandrakant holds a Master's degree in Social Entrepreneurship from the Hult International Business School, UK, and a Bachelor's degree in Physics from the American University at Cairo, Egypt.



*Mr. Manohar Krishna, CEO,  
KamAvida Enviro Tech*

**Mr. Manohar Krishna** holds an MBA from IIM (Bangalore) and have, over 30 years of experience in the Liquid and Solid Waste Management Industry through Kam-Avida Enviro Engineering (KAEE) Pvt Ltd. There are over 6000 machines plying nation-wide and working for Collection and Transportation of Liquid and Solid Waste in India.

Kam Avida Enviro Engineers Pvt. Ltd – Awarded second position in Category A (Cleaning and Maintenance of Sewerage Solutions) in AMRUT Technology Challenge organized by Ministry of Housing and Urban Affairs to Promote Solutions for Cleaning of Sewerage Systems and Septic Tanks to Eliminate Need for Human Entry.



*Ms. Sonal Jain  
Co-Founder, Boondh*

**Ms. Sonal Jain** runs Boondh, a social enterprise that works on menstrual literacy, destigmatization and reusable per iod products. Her previous work includes facilitating teams for World Merit UK in the space of environment sustainability and education. Her work on UN SDG 12 has been presented at the UN in New York City in 2016.



*Mr. Snehit Prakash, Director of Operations,  
Blue Water Company*

**Mr. Snehit Prakash** is chemical engineer with a Master's Degree in Rural Management from IRMA--the perfect understanding of science and management, to make shit safe! He has also run several training programs for Government officers and engineers.

Blue Water Company Awarded First position in Category B (Cleaning of Septic tanks) and providing solutions in the area of fecal sludge management in Leh and also rendering services to the Indian Army.

**Mr. Vijay Sampath**, is the founding Director, InnoDi An IIT Madras incubated company. InnoDI develops and manufactures, Capacitive De-ionization (CDI) based products for both commercial and domestic usage. Using this technology, InnoDI has built many solutions for rural and urban drinking water including house-hold segments. Vijay has a degree in Mechanical Engineering from the University of Mysore, and has spent over 30 years in the field of Information technology before starting InnoDI in 2016.



*Mr. Vijay Sampath  
Director, InnoDi*

**Mr. Vimal Govind**, CEO & Co-founder of Genrobotic Innovations. He is the innovator of Bandicoot Robot & Indian Iron Man suit. He has studied Robotic & Mechanical Engineer from the Calicut University, and has been a Rank Holder,. He has also been a TEDx speaker.



*Mr. Vimal Govind, CEO  
Genrobotic Innovations*

**Awarded the Promising Innovative Solution (Special Category);** Bandicoot is the world's first Manhole Cleaning Robot with the mission of eliminating manual scavenging from the face of the world and rehabilitating the existing scavengers to a better life.

**Mr. Mark Peters** currently is the WASH Team Lead of USAID, India. His experience in WASH program development and project spans 26 years, working in 17 countries or six content. Mr Peters started his professional career at Water and Sanitation Volunteer, United States Peace Corps, Honduras as project engineer in the year 1995. He worked in number of renowned organization and Representative, American Red Cross (ARC), in many countries. He was one of the eminent jury member of the AMRUT Technology Challenges organized by MoHUA.



*Mr. Mark Peters,  
WASH Team Lead, USAID, India*

**Mr. Divyang Waghela**, is the head of Tata Water Mission of Tata Trust. He started his career from Gujrat Water Supply and Sewerage Board. From then he handled various responsible position of the different organization in water and sanitation. In his leadership, Tata Trust is felicitated as outstanding support of the implementation of the programme of Swachh Bharat



*Mr. Divyang Waghela, Head,  
Tata Water Mission at Tata Trusts*

**Dr. Ravikant Joshi** is an Urban Finance and Management specialist and was former chief accounts officer of Vadodara Municipal Corporation for more than 35 years. He has been responsible for the conceptualization, designing and implementation of Municipal Financial, Budgetary and Accounting System Reforms and their computerization in 159 municipal bodies in Gujarat. He has worked in various Water and Sanitation programs for multi-laterals, state and central organisations, and Urban Local Bodies. He has authored various books and research papers on municipal finance and budgeting. At present, Dr Joshi is working as the Team Leader for technical support group to National Urban Livelihood Mission – Ministry of Housing and Urban Affairs – Government of India.



*Dr. Ravikant Joshi, Team Leader  
Technical Support Unit  
DAY-NULM, MoHUA*



*Dr. Jyoti Parikh, Executive Director,  
Integrated Research and Action  
for Development*

**Dr. Jyoti Parikh** was a Member of the Prime Minister's Council on Climate Change India and is a recipient of Nobel Peace Prize awarded to IPCC authors in 2007. She has over 30 years of experience and has served as the energy consultant to the World Bank, and consultant to various UN organisations. She also worked as an advisor to various ministries for Gov. of India. She obtained her M.Sc. from University of California, Berkeley, in 1964 and Ph.D. in Theoretical Physics from University of Maryland, College Park in 1967.



*Mr. Vineeth Menon,  
Associated Vice President, Intellectap*

**Mr. Vineeth Menon** brings over 12 years of experience in consulting and transaction advisory spread across India and Africa. His experience in water sector include designing CSR interventions in Water and developing country entry strategies for market leaders like HUL, Kohler, Eureka etc. He has also been involved in supporting social enterprises in water sector in their growth path and scale up strategy. In sanitation he was associated with conducting impact assessment of Banega Swachh India Program supported by Reckitt Benckiser, India. He has also designed go-to-market and rural market entry strategies for social enterprises involved in sanitation sector.



*Ms. Suneetha Kacker, Urban Infrastructure  
and Development Specialist*

**Ms. Suneetha Kacker**, is an urban sector professional with extensive experience in infrastructure development and service delivery. Her specific expertise is in water, sanitation and municipal waste management. Her work has included both project and policy interventions; and is based on a sound understanding of municipal finance and governance. Since 2016, she has been a consultant to the World Bank and IFC; and is currently engaged in urban water and sanitation projects in India, Bangladesh, Cambodia and Mongolia.



*Ms. Arundhati Das  
Manager, Water, Sanitation and Hygiene,  
RTI International, India*

**Ms. Arundhati Das** has over 10 years of experience in the WASH sector. She holds a Master degree in Environmental Sciences from Banaras Hindu University (BHU). Prior to joining RTI, she has worked with organizations like Jagran Peהל, Ernst & Young (EY), Development Alternatives (DA) and World Wide Fund for Nature (WWF- India) and on as Reckitt Benckiser, DFID, World Bank and UNICEF projects. Additionally, she is also managing the projects on developing inclusive solutions for urban poor in the slums of Bhubaneswar, under the Water for Women Fund supported by Department of Foreign Affairs and Trade (DFAT), Australia.



*Ms. Pooja Singh  
Head, Program Monitoring and Evaluation,  
Safe Water Network*

**Ms. Pooja Singh** leads Monitoring and Evaluation, Communications and other key programs for India operations. She brings over 9 years of experience in corporate planning, project management, international marketing, networking and research to Safe Water Network. Pooja is an Environmental Law post-graduate from the National Law School of India University, and holds a Master's degree in International Business from Western International University.



*Ms. Priyanka Dutt  
Country Director, India, BBC Media Action*

**Ms. Priyanka Dutt** is the Country Director at BBC Media Action, India, and provides strategic and operational leadership to the organization's India country programme. Priyanka has a Master's degree in Film and Television Studies from the University of Warwick. As a communication specialist, she now focuses on social and behavioral change communication. She has worked extensively on maternal and child health, reproductive health, nutrition, WASH and HIV. Prior to joining the nonprofit sector, Priyanka produced and directed entertainment television shows for channels such as BBC World, ESPN and the Star Network.



**Mr. Alok Dasgupta** comes from the Architecture background; having 32 years of experience in the development sector. Presently, he is working as the Team Leader, Technical Cell at the Centre for Urban and Regional Excellence (CURE), New Delhi and engaged in projects and activities on pro-poor urban development through inclusive planning and governance, multi-stakeholder partnerships, institutional capacity building and urban reform.



*Mr. Alok Dasgupta, Team Lead  
Centre for Urban and Regional Excellence*

**Mr. Mohammed Asif** is working as Director Program Implementation with Plan International (India Chapter), a national non-government organization working for promoting child rights and equality for all girls with for more than two million children and youth from poor and excluded communities. He has more than 20 years of experience in managing and implementing pro-poor development initiatives, particularly in the WASH domain; and studying the outcomes and impacts thus created.



*Mr. Mohammed Asif, Director, Programme  
Implementation, PLAN India*

**Mr. K. G. Venkateswaran** co-founded Auriga Consultancy and Management Services Private Limited, a social sector advisory firm, in 2015. In more than 18 years of experience, he has worked with corporate as well as non-government entities in health promotion and communication, behavior change communication, health systems strengthening, human resources for health and scaling up successful pilots.

Venkateswaran has done MBA in Hospital Administration specialization in marketing from the Institute of Management Studies, Devi Ahilya University, Indore and a short course on health sector reforms from the World Bank Institute and Chulalongkorn University, Thailand.



*Mr. K. G. Venkateswaran, Co-Founder  
and Director, Auriga Consultancy and  
Management Services Private Limited*

**Mr. V. K. Madhavan**, Chief Executive of WaterAid India commenced career with the Urmul Rural Health Research and Development Trust in Bikaner district of north-western India after completing Master's in International Politics from Jawaharlal Nehru University. He has worked with ActionAid and The Hunger Project in the Kumaun region of Uttarakhand with the Central Himalayan Rural Action Group (Chirag). In his years as a development professional, Madhavan has worked on an integrated approach to rural development – community health, primary education, natural resource management, on and off-farm livelihoods and investing in young people. Madhavan felicitated as TED Global Fellow in 2009 and a TED Senior Fellow in 2010.



*Mr. V. K. Madhavan  
Chief Executive, WaterAid*

**Ms. Ishita Agrawal** has a degree in Business Management and has been working with early stage start-up ecosystem in India for the last 10 years. Currently she is associated with Atal Innovation Mission, NITI Aayog as Manager. She has mentored several entrepreneurs and helped them in building their business plans. She is passionate about working with entrepreneurs and shares their excitement for making a start-up successful.



*Ms. Ishita Agrawal, Manager,  
Atal Innovation Mission, NITI Aayog*



*Commemorative photograph at the end of the Summit*





# MEDIA OUTREACH

FOUNDATIONS FOR NEW DELHI  
SATURDAY, DECEMBER 29, 2018

## htestates 'Rapid urbanisation is a reality that cannot be ignored'

### NEEDS Infra in megacities must grow

**Naveen Khil**

@naveenkhil

The Government of India has been launching various initiatives of 'Smart Urban Mission', 'Atal Mission for Rejuvenation and Urban Transformation' (AMRUT) and 'Smart Cities Mission' to address the challenges of urbanisation. However, the infrastructure needs of megacities are not being met. It is time to focus on the needs of these cities. The Government of India has been launching various initiatives of 'Smart Urban Mission', 'Atal Mission for Rejuvenation and Urban Transformation' (AMRUT) and 'Smart Cities Mission' to address the challenges of urbanisation. However, the infrastructure needs of megacities are not being met. It is time to focus on the needs of these cities.



- Naveen Khil

Urbanisation is a reality that cannot be ignored. The Government of India has been launching various initiatives of 'Smart Urban Mission', 'Atal Mission for Rejuvenation and Urban Transformation' (AMRUT) and 'Smart Cities Mission' to address the challenges of urbanisation. However, the infrastructure needs of megacities are not being met. It is time to focus on the needs of these cities.

Urbanisation is a reality that cannot be ignored. The Government of India has been launching various initiatives of 'Smart Urban Mission', 'Atal Mission for Rejuvenation and Urban Transformation' (AMRUT) and 'Smart Cities Mission' to address the challenges of urbanisation. However, the infrastructure needs of megacities are not being met. It is time to focus on the needs of these cities.

Urbanisation is a reality that cannot be ignored. The Government of India has been launching various initiatives of 'Smart Urban Mission', 'Atal Mission for Rejuvenation and Urban Transformation' (AMRUT) and 'Smart Cities Mission' to address the challenges of urbanisation. However, the infrastructure needs of megacities are not being met. It is time to focus on the needs of these cities.

Urbanisation is a reality that cannot be ignored. The Government of India has been launching various initiatives of 'Smart Urban Mission', 'Atal Mission for Rejuvenation and Urban Transformation' (AMRUT) and 'Smart Cities Mission' to address the challenges of urbanisation. However, the infrastructure needs of megacities are not being met. It is time to focus on the needs of these cities.

View Tweet activity

Nov 2018 • 30 days

TWEET HIGHLIGHTS

**Top Tweet** earned 806 impressions  
The Waleedictory Season begins with a special address on Role of Innovations to make transformational impact in Urban WASH Sector by Mr. V. K. Mathur, Chief Executive Officer, AUDA  
pic.twitter.com/Q717upVly



View at Tweet activity

View Tweet activity



View at Tweet activity

**Top Follower** followed by 15,16 people  
muhammad aziz  
@muhammadaziz88 FOLLOWING YOU  
Water & Environment "Researcher", "Activist" & Director, Driving people, @Climate, @Hydrogeology, @TransboundaryWater, @Geopolitical & @GlobalAnalyt.

View profile View followers dashboard

**Top mention** earned 25 engagements

**UCCI President** @UCCI2018 Nov 23  
With Hon. Union Minister of state for Housing and Urban Affairs, Shri. Hardeep Singh Puri at the National WASH Innovation Summit held at Delhi today. #WaterWash #WASH #Washsummit2018 @NUIA, India  
@WaterWash pic.twitter.com/3eYh7uQz33



View at Tweet activity

View Tweet

**Top media Tweet** earned 800 impressions

Sh. Hardeep Singh Puri, Hon. Minister of State @NUIA, India, Mr. Mark White, @USAID Mission Director @India, Mr. Anjum Parvez, Secretary, Urban Development Dept, Govt of Karnataka, @JaganMallu, Director @NUIA, India, Dr. Ravi Gupta, CEO @UrbanMission @WASH2018  
@WaterWash pic.twitter.com/47C71ruU7



View at Tweet activity

View Tweet activity

Home » Events » National WASH Summit 2018

## National WASH Summit 2018

EVENT DETAILS

- November 28th, 2018, 9:00am - November 29th, 2018, 5:30pm
- The Park, Parliament Street, New Delhi
- Event is free

### National WASH INNOVATION SUMMIT 2018

Enabling Innovation Ecosystems for WASH

20th November, 2018 | New Delhi

The National WASH Summit is being organized by National Institute of Urban Affairs (NIUA) and E&T Technosia and supported by Ennovator on Tuesday, 20th November 2018 at The Park, Parliament Street, New Delhi.

The theme of the Summit is Enabling Innovation Ecosystems for WASH Solutions. Shri Hardeep Singh Puri, Hon'ble Minister (Independent Charge), Ministry of Housing and Urban Affairs, Government of India will grace the event as the Chief Guest.

The Summit will bring together key WASH stakeholders: government bodies, civil society, donors, innovators, for discussing, enabling and innovating WASH solutions. The Summit will also share the experience of ongoing USAID supported Innovation Hub for Urban Water, Sanitation and Hygiene (IHUWASH) program and the IHUWASH Accelerator Innovations.

If you are interested please register [here](#).

Press Trust of India  
India's Premier News Agency

Home National International Business Sports Legal Entertainment Politics Graphics Stocks Trends

Welcome Guest! You Are Here: Home National

### Centre approved Rs 74k-cr for sanitation projects: Puri

15 12 18 09:57

New Delhi, Nov 20 (PTI) The Centre has approved projects worth Rs 74,000 crore towards ensuring an improved water supply, sewerage and drainage, Union minister Hardeep Singh Puri said Tuesday.

The housing and urban affairs minister was addressing the gathering at the National Water, Sanitation and Hygiene (NWSH) Innovation Summit, which is being organized by the National Institute of Urban Affairs (NIUA) in association with E&T Technosia Private Limited here.

"Under AMRUT (Atal Mission for Rejuvenation and Urban Transformation) over 2,400 projects worth Rs 74,000 crore, targeted towards ensuring an improved water supply, sewerage, and drainage, have been approved under the state annual action plans for 2015-2020.

"The government is providing various platforms to display, promote and recognise innovations happening across the nation. Our youth is coming forward with great ideas and entrepreneurship models in WASH and other areas," Puri said.

The AMRUT scheme was launched by Prime Minister Narendra Modi in 2015 with a focus to establish infrastructure that could ensure adequate robust sewerage networks and water supply for urban transformation by implementing urban revival projects.

The Summit is being held to create a platform for entrepreneurs, including startups, to showcase their innovative products and solutions in the area of water, sanitation and hygiene, and provide momentum to the innovative ecosystem, besides contributing to resolve the pressing issues in the WASH sector.

PrintRelease.aspx?relid=185861

**Government of India**  
**Ministry of Housing and Urban Poverty Alleviation**

20-November-2018 19:13 IST

**Vision & Strategy of Ensuring Access to Clean Drinking Water & Provide Sanitation & Hygiene Related Services to Everyone, is Finding Expression in Vigorous Implementation of Critical Flagship Programs : Hardeep Puri**

**Focus on Sustained Behavioral Changes to Achieve the Vision of ODF India**

**Flagship Programs also Contributing to Achieving the Sustainable Development Goals (SDGs)**

Shri Hardeep S. Puri, Minister of State (I/C) of Ministry of Housing and Urban Affairs (MoHUA), has stated that the vision and strategy of ensuring access to clean drinking water and to provide sanitation and hygiene related services to everyone, is finding expression in vigorous implementation of critical flagship programs: Swachh Bharat and AMRUT, launched by the MoHUA, and added that "we are achieving significant success in both these missions". He was addressing "National Water, Sanitation and Hygiene (WASH) Innovation Summit 2018" organised by National Institute of Urban Affairs(NIUA) here today. Representatives from various states, USAID, and domain experts were present at the Summit.

Addressing the participants, the Minister pointed out that it is an undisputable fact that poor sanitation, lack of clean drinking water, and lack of hygiene in the household and the community creates an adverse impact on health, as well as economic losses. "The inadequacy of facilities is particularly visible with regard to the inhabitants of slums and informal settlements", he said. The Ministry is driven by the goal to provide adequate urban infrastructure and services that can ensure the development of healthy Indian cities where all our population can lead productive lives, he added. Stating that urbanization is now here to stay and that we need to plan for it, the Minister said that Indian cities are growing rapidly and providing an opportunity for growth of the economy as well as social mobility and poverty alleviation.

Shri Puri informed that to achieve the vision of an open-defecation-free India, we have focused on sustained behavioural changes through conventional as well as innovative means. Under the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), over 2400 projects worth Rs. 74,000 crores that are targeted towards improved water supply, sewerage, and drainage have been approved under the State Annual Action Plans for the period 2015-2020. He further informed that "AMRUT Technology Challenge" has been launched which addresses the need for non-essential human entry for cleaning of sewers and septic tanks. "These programs are also contributing to achieving the Sustainable Development Goals (SDGs) set out by the United Nations, particularly the SDG 6 – 'Ensure access and sanitation for all by 2030' –through collective efforts and innovative approaches", Shri Puri noted.

The Government is providing various platforms to display, promote and recognize innovations happening across the nation and the youth is coming forward with great ideas and entrepreneurship models in WASH and other areas, through the Atal Innovation Mission, Start-up India, and the 'Swachhathon' – all organized to promote innovation and innovators, he said and added that while we continue in our endeavor to successfully implement new solutions at the pilot scale, our ultimate goal must be to spread these solutions to the entire country. He appreciated and acknowledged the significance of what the National Institute of Urban Affairs (NIUA) is trying to do with their project 'Innovation Hub for Urban WASH Solutions' and noted that this is the only way that innovative WASH solutions can have the desired transformational impact by improving the lives of our people.

The Summit deliberated on various aspects and role of innovations to make transformational impact in urban WASH sector.

## NATIONAL WASH INNOVATION SUMMIT IN NEWS

1. <http://pib.nic.in/newsite/PrintRelease.aspx?relid=185861>
2. <https://avpn.asia/event/nationa-wash-summit-2018/>
  - [3. http://www.ptinews.com/news/10189916\\_Centre-approved-Rs-74k-cr-for-sanitation-projects--Puri.html](http://www.ptinews.com/news/10189916_Centre-approved-Rs-74k-cr-for-sanitation-projects--Puri.html) - This Press Release has been published up by thehindubusinessline.com and the dailypioneer.com
  - <https://www.thehindubusinessline.com/news/national/centre-approves-rs-74k-cr-for-sanitation-projects-puri/article25547905.ece>
  - <https://www.dailypioneer.com/2018/india/govt-ok---s-rs-74k-cr-for-2-400-sanitation-projects.html>
  - <https://www.devdiscourse.com/Article/politics/260370-center-nod-projects-worth-rs-74000-cr-for-water-supply-sewerage-drainage>
  - <https://architexturez.net/pst/az-cf-189207-1543034756>
4. <https://www.pressreader.com/india/hindustan-times-pati-la/20181229/282445645179073>

## SUMMIT PARTNERS



The National Institute of Urban Affairs is a premier institute for research, capacity building and dissemination of knowledge for the urban sector in India. The Institute supports policy formulation, programme appraisal and monitoring for the MoHUA and other Ministries of Government of India, and undertakes research projects with multilateral/ bilateral agencies and private sector organisations.



Innovation Hub for Urban Water, Sanitation and Hygiene Solutions (IHUWASH) supports the development of scalable solutions for urban WASH in India through incubation and acceleration of innovative solutions, technologies, programs and service delivery models within a collaborative framework by building partnerships at the local, state and national level. The project is supported by the USAID.



Elets Technomedia Pvt Ltd, Asia & Middle East's premier media and technology research organisation was founded in 2003. It is India's leading organisation which is focussed on the awareness creation on the importance of innovation and technology for governance, urban transformation, health, education, banking sector through publications, knowledge portals and conferences.

For more details, contact:

E: [wash@niua.org](mailto:wash@niua.org), T: +91-11-24643576 (Ext: 225)

Follow us on :  @ihuwash