

SANITATION INNOVATION ACCELERATOR 2016



ENABLING RURAL SANITATION:
UNDERSTANDING THE
BUSINESS PERSPECTIVE

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 **TARU**



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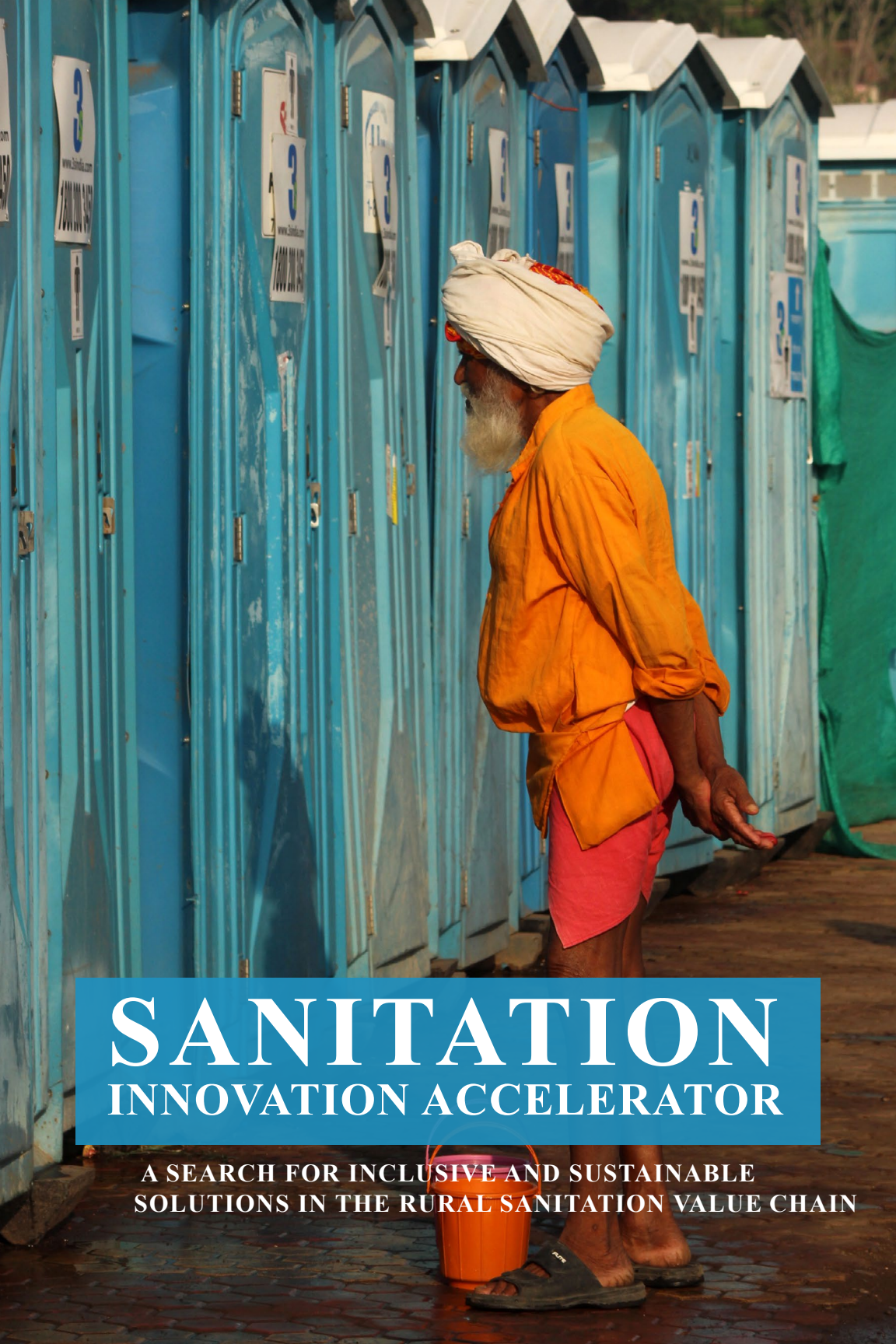
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SANITATION INNOVATION ACCELERATOR

A SEARCH FOR INCLUSIVE AND SUSTAINABLE
SOLUTIONS IN THE RURAL SANITATION VALUE CHAIN



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Executive Summary

Among countries where open defecation problems persist, India tops the list. Studies have demonstrated that over 946 million people defecate in the open globally and of this staggering number, 564 million are Indians. This means that approximately 60% of the people that defecate in the open in the world are in India. Lack of priority for safe containment, treatment and safe disposal of human excreta pose significant health risks. It is well known that open defecation and unimproved sanitation causes diseases like diarrhoea, cholera, hepatitis, polio, stunting, and sometimes even death. Over the last 3 decades, the Government of India (GoI) has, from time to time, initiated various programmes to tackle problems around sanitation, health and hygiene, the latest being the Swachh Bharat Mission (SBM), which was launched in 2014. While most of the programmes have been fairly successful and focus more on the toilet itself, these programmes are yet to address the remaining value chain. The existing scenario with a focussed mission in place has garnered enough momentum for business entrepreneurs and social enterprises to come with new ideas and innovations to tackle sanitation challenges faced by the country.

Ennovent, IRC and TARU Leading Edge ('TARU') have forged a partnership alliance to develop a Sanitation Innovation Accelerator ('Accelerator') for India's rural markets. The Accelerator is a unique nation-wide search for inclusive and sustainable solutions in the rural sanitation ecosystem in India. It was initiated with an aim to identify, source, build capacities to scale such enterprises, especially in rural areas where it is more difficult to reach large numbers of people. In the first phase of the project, scheduled from March 2016 to September 2016, a pilot was undertaken and set up with the objective to test the process and systems of the Sanitation Innovation Accelerator. Almost half of the 88 innovations submitted focused on awareness raising approaches or product development. The majority of the applications lacked a viable business model. 30 businesses complied with all the selection criteria and based on a second round and third round of interviews and due diligence, 6 innovations were shortlisted for a coaching trajectory to improve their business. This report captures the key highlights about the role of the accelerator, the sourcing and selection of various enterprises, due diligence processes along with key takeaways from the accelerator program.

Context of Sanitation

By Sanitation, we refer primarily to the sanitation value chain in relation to human waste: from capture and containment via emptying, transport and treatment to safe disposal and reuse of human waste. In an ideally managed system, this is all done in a safe manner. A toilet is used for urinating and defecating and is designed in such a way that human waste does not get in contact with the user. Safe containment deals with how the human waste is stored, for example in a tank¹ or channelled to a sewage network. When toilets are connected to a tank we refer to it as onsite sanitation; human waste is collected till the tank is filled and then emptied – either manually or mechanically using tankers. In the case of a sewer system, the human waste is transported through a piped network to a sewage treatment plant where it is treated and where effluents are up to a standard for safe disposal or reuse². Sewer networks, fairly expensive, or decentralised faecal waste management systems are more common in urban settings and congested rural settings. In most, if not all, rural settings in India, onsite sanitation facilities are used.

The unsafe management of any of these aspects would consequently get human waste into the environment and in contact with people. In case of India, with its high population and consequently high volume of human waste generated, this translates into high risk for people's health. The Joint Monitoring Report of WHO and UNICEF in 2015 highlighted that of the 946 million people defecating in the open globally, 564 million people are Indians which is about 60% of the world's open defecators. When discussing sanitation, often the focus shifts immediately on data on coverage, as there are continued challenges around getting people to use and maintain the infrastructure. While this is very important, we also need to start thinking beyond toilet construction. Our learning in India from the states that are nearly 100% open defecation free, clearly shows the need to think and plan beyond toilets. The need of the hour is to develop a sustainable plan to deal with human waste from these toilets to safe disposal or reuse of the same.

¹ This could be a pit, septic tank or a holding tank. The actual containment in each of these cases differs. The material used for building these tanks and the closure at the bottom of the tank are the key determinants. In the case of ECOSAN toilets, the waste over a period of time gets converted to compost.

² The Central Pollution Control Board has prescribed standards for reuse of effluents from STPs for agriculture or release in water bodies.

Key Facts

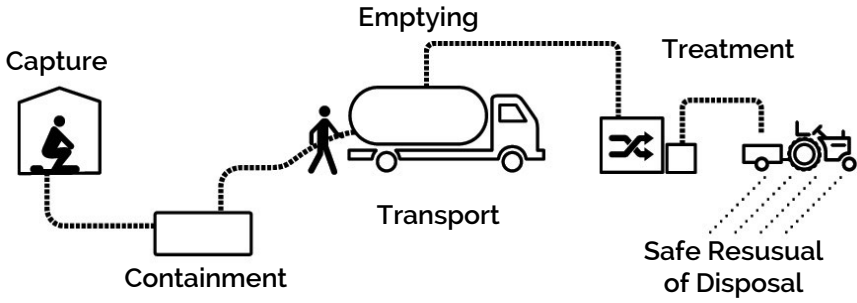
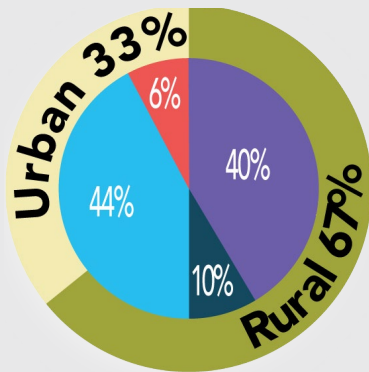
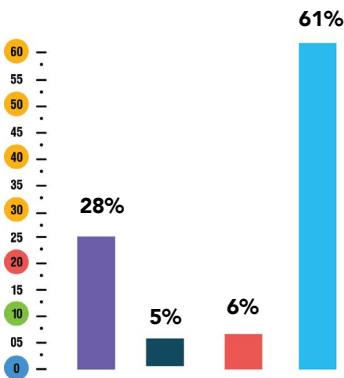


Fig 1. Sanitation Value Chain

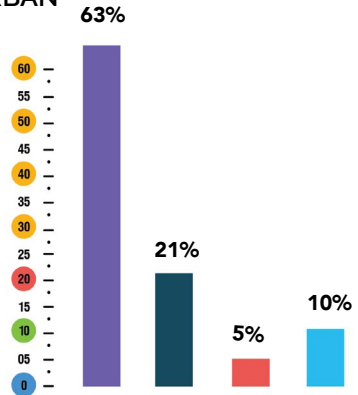


- ◆ Improved Sanitation
- ◆ Shared Facilities
- ◆ Other Unimproved
- ◆ Open Defecation

RURAL



URBAN



Why Focus on Rural Sanitation?

The government's acknowledgement of the load of sanitation on health and hygiene initiated central programs for rural sanitation since the 1980s³. The Swachh Bharat Mission launched in 2014 is India's most ambitious response to sanitation challenges. With a budget of USD 9.7 billion, the mission aims to make basic sanitation facilities available to all Indians by 2019 by mobilising different stakeholders, including enterprises, investors and corporations. These programs have gradually differed in terms of approach, starting from being only infrastructure focussed to involving communities and now focusing on behaviour change. The impact has been slowly progressive; with 1% coverage in 1981, 9% in 1991, 22% in 2001 and 32.7% in 2011⁴.

Sanitation sector so far has been the prime responsibility of the public sector, with limited opportunities and incentives for business entrepreneurs to provide innovative solutions. All the government programs for rural sanitation, including the ongoing Swachh Bharat Mission, have provided subsidies for constructing household toilets. Several issues have emerged with the process including ghost toilets⁵, quality of construction, quality of materials used, lack of alternative finance options, limited choice of toilet design and lack of understanding of user needs & desires. To address these gaps, the government has supported implementers with several initiatives like the Rural Sanitary Marts, e-catalogue⁶ and Indovations⁷. Although they are useful, these are still fairly focussed on the toilet and are yet to consider the remaining value chain. Further, few of these initiatives, like the Rural Sanitation Mart, lack the business perspective to become viable. We believe that the present mission does provide momentum for business entrepreneurs and social enterprises to come up with ideas and innovations that will change water and sanitation service delivery and address the huge sanitation challenges faced by the country. The Sanitation Innovation Accelerator was initiated with an aim to identify, source, build capacities to scale such enterprises, especially in rural areas where it is even more difficult to reach large number of people.

³ The Central Rural Sanitation Program (CRSP) from 1986, Total Sanitation Campaign (launched in 1999 – with a goal of access to toilet for all by 2012), Nirmal Bharat Abhiyan (launched in 2012 – goal to complete coverage by 2022) and now Swachh Bharat Mission (launched in 2014 – complete coverage, rural and urban, by 2019).

⁴ Census of India

⁵ Ghost toilets – the toilets shown as constructed on official documents to ensure the release of subsidy, but were never constructed.

⁶ E-catalogue is a mobile application whereby the consumer can see the choice of material available and the respective costs to place an order.

⁷ A platform by the Ministry of Rural Drinking Water and Sanitation on innovations in the sector.

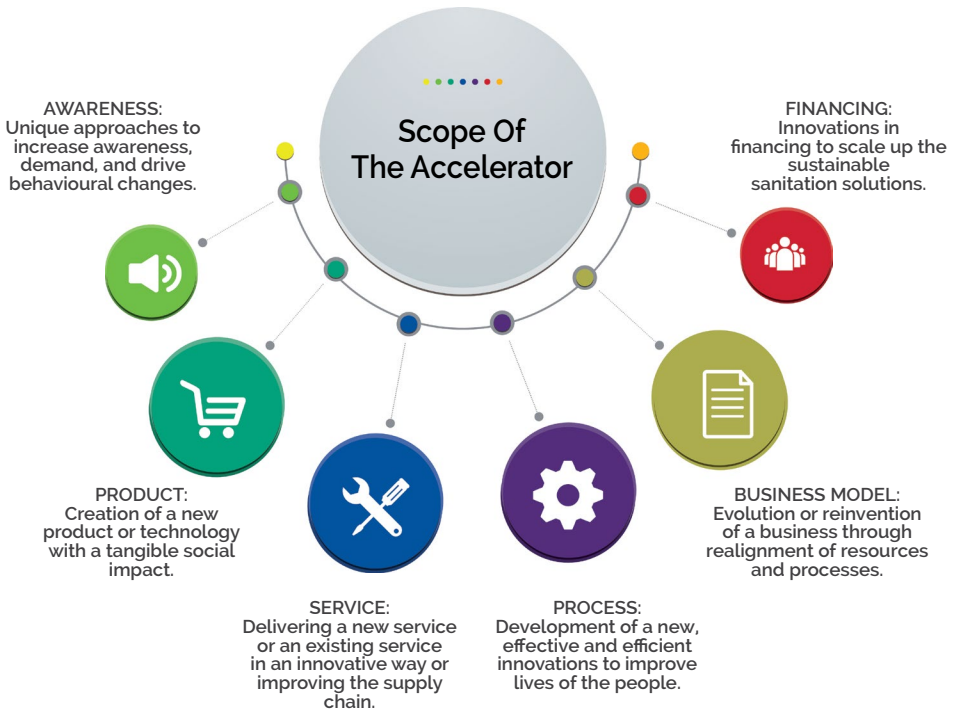
Enabling Rural Sanitation with an Innovation Accelerator

Background

Ennovent, IRC and TARU Leading Edge ('TARU') have forged a partnership alliance to develop a Sanitation Innovation Accelerator ('Accelerator') for India's rural markets. Sanitation innovation is an inclusive and sustainable solution to sanitation challenges anywhere in the sanitation chain; from containment and collection to treatment, safe disposal and reuse of fecal waste. The Accelerator is a unique nation-wide program to discover, startup, finance, and scale early-stage entrepreneurial innovations and enterprises with wide-ranging and sustainable solutions in the rural sanitation ecosystem in India. The initiative brings together international and national technical expertise on Water, Sanitation and Hygiene with a specialization in accelerating innovations for sustainability in low-income markets in developing countries. The aim is to build the Accelerator gradually in several phases to ensure better alignment of activities, resources and effectiveness.

The objective of the Accelerator is to promote solutions that can impact a large number of people. Sanitation innovations are expected to bring substantial improvements to existing technologies or approaches, tailored to meet the objectives of clients and partners, and solve their innovation challenges. Participation in the program was absolutely free of charge for our cohort members with all costs (accommodation, meals and resource material) borne by the core team.





With the accelerator program, we wanted to support market-driven innovations across the rural sanitation value chain and address systemic challenges that impede breakthrough for-profit sanitation solutions.

Framework of Sanitation Innovation Accelerator 2016

I. Eligibility Criteria:

The Sanitation Innovation Accelerator was successfully launched on the occasion of World Water Day (22nd March 2016). The application process was completely electronic with all the submissions being managed by the F6S platform. For the purpose of outreach, the core partners leveraged their respective networks to disseminate information about the program and used several channels including websites, press releases, mailing groups across investor and sanitation networks as well as enabler networks. Information was also shared among sector organizations with linkages to grassroots social enterprises currently working in the rural sanitation value chain. Further, we actively reached out to organisations that were identified through web searches and international referral networks. The Sanitation Innovation Accelerator received over 88 applications, out of which 55 were able to successfully apply before the deadline.

- 01 Open to all development projects being implemented in the rural markets in India.
- 02 The innovation must have a clearly defined link with sanitation.
- 03 The innovation must have a sustainable and scalable business model with a market driven approach.
- 04 The organisation must be registered in India.
- 05 The project implementation must have started before 1st January, 2015.
- 06 Submissions concerning a recently started project or only a project idea or a feasibility or baseline study will not be considered.
- 07 Submissions for funding conferences and seminars (either in part or in full) will not be considered.
- 08 Timely submission of all documents is mandatory for your application to be treated as complete and eligible.

Out of all the applications received, 25 applications were eligible and were compliant with all the criteria. There was further shortlisting to 15 applications.

II. Selection Criteria:

Interview calls were held by the core team members with the 15 shortlisted applicants to better understand what the innovation was about. The applications were assessed on the following parameters:



01

Willingness to work in a for-profit model:

For a viable business, the entrepreneurs should be keen to work in a 'for-profit' model

02

Degree of innovation:

The program will only support applications that are using unique approaches to solving the sanitation problems.

03

Clarity of business model:

Applications need to showcase a clear understanding of its product/service, the target market and its relevant stakeholders.

04

Investment readiness:

The stage of the venture is either fully launched or already mature and in process of expansion and transparency in reporting structures.

05

Quality of founding team:

The application needs to have a team with a proven track record and complementary skills, suited to develop and implement the innovation.

06

Practical application of Innovation:

The approach needs to be feasible, scalable and inclusive. The model has been delivered and made available to the marketplace at a commercial scale.

III. Selection Process:

A multi-layered and multi-stakeholder selection process was undertaken for over 2 weeks to shortlist the final cohort of 6 innovations who will get an opportunity to pitch their business model to the broader Sanitation ecosystem.

01

Desk Assessment:

All 55 applications were reviewed and a long list of Top 30 applicants was drawn (3 Days).

02

Telephonic Interview:

Top 30 applications were contacted for additional details under the Refinement phase (5 Days).

03

Expert Selection:

Based on the details provided by the shortlisted Top 30, the expert panel evaluated the applications and shared Top 15 innovations.

04

Detailed Business Review:

The core advisory team did a detailed business review to select and rank a shortlist of Top 6 finalists from the expert suggestions.

05

Self-Declaration:

The final phase of selection was concluded by a self-declaration from the Top 6 innovations on ethical practices, accounting system and fair business.

For the inaugural batch of Sanitation Innovation Accelerator, 2016, the cohort of 6 innovations was declared on 25th May in Delhi after a 3-Day Bootcamp program. The cohort went through our 8-week technical assistance and capacity building mentorship before the pitch event, held in Delhi on 7th September 2016.

IV. Board of Mentorship

SIA Mentorship Board consists of a panel of volunteers-experts who are interested in sharing their skills and knowledge that they have gained from creating and guiding successful innovations/enterprises in the past. They come with a wide range of experience and are founders, investors, academicians, entrepreneurs, chairmen, CEOs, or directors of successful organisations and partnerships. Our Mentors are 'experts' in a particular field and/or want to support innovations in areas like Awareness, Product, Process, Service, Business model & Financing for Water, Sanitation & Hygiene (WASH) space across individual, household, community, institutional, public spaces & environmental levels.

V. Scope of Innovations - Value Chain Type

In total, we received 88 applications. In fig. 2 below, the innovations are divided among six areas.

- In the awareness and engaging with communities space, most applications were from NGOs who depended on grants with no business models. These were limited to the community led total sanitation approach. There was little study or effort in understanding the community's perception, needs and aspirations.
- The applications received in products were mostly on toilet technology, for example waterless urinals, and a few on material of construction. Most of these innovations lacked a demand-driven focus; there was little or no focus on the users, especially for women, children, elders and people with disabilities.
- A few applications for process focussed on supply chain.
- There were initiatives supporting financing of toilet through Self Help Groups - (SHGs).
- There were several applications on solid waste management and this area was beyond the scope of this accelerator.
- For faecal sludge management, that is the treatment of human waste, there were a few applications, but they were still in the testing stage.

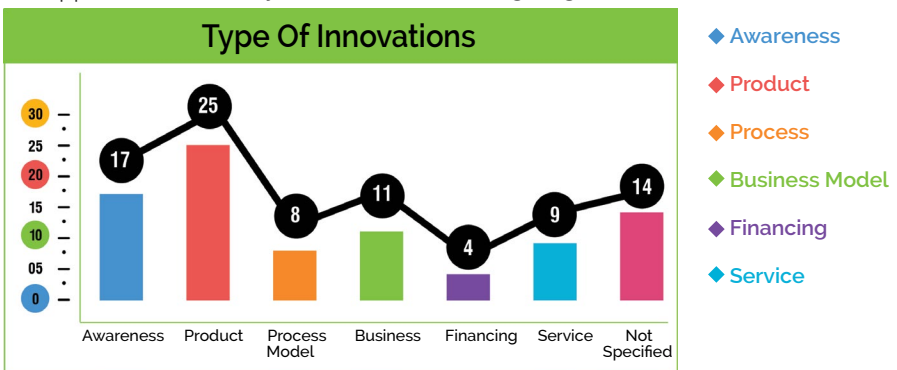


Fig 2. Type of Innovations

For-Profit and Not-For-Profits

During the sourcing phase, we understood that there were few initiatives in the rural sanitation space by social entrepreneurs. A lot of the innovations, that were tried, were undertaken NGOs. That is why it was decided to open up it up for others as long as there was a business approach. After opening up the applications, more than one third of them came from not-for-profit organisations. Fig. 3 shows the break-up of the applications received from profit and not-for-profit organizations.

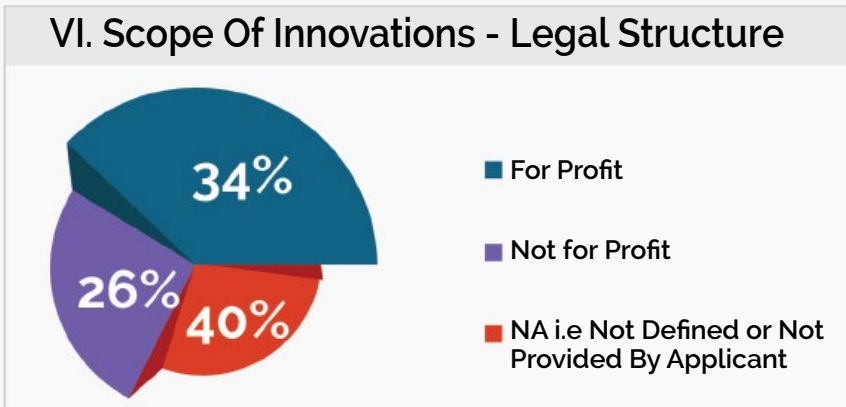
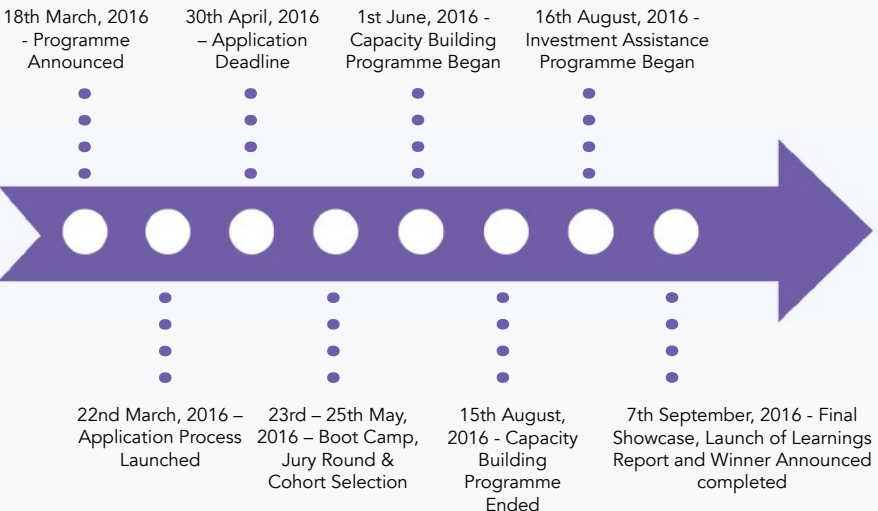


Fig 3. Type of Organisations

Timeline



Key Takeaways from the Sanitation Innovation Accelerator 2016

Our core learnings and recommendations are categorised under two broad themes, namely Innovations and Innovators. Under Innovations, we found investment ready business models and breakthrough approaches for solving sanitation challenges as our key learnings whereas for Innovators, we found a traditional approach and managing relationships as interesting insights.

A. INNOVATIONS

Learnings

Investment Ready Business Models

Scalability:

Almost all the applications received under the Sanitation Innovation Accelerator 2016 (SIA '16) had come out with an innovation that was highly localized in focus with a limited geographic reach, restricted to 1-2 regions within a state. A small(er) market limits the potential impact of the innovation; it puts pressure on the margins and increases the investment risk profile. Scalability is an important aspect of an investable business and it is extremely relevant for Sanitation Innovation, as scale will not only improve profit margins but also increase market efficiency and ensure optimum return on risk capital. In the present scenario, there are very limited opportunities for private investors to infuse capital within the rural sanitation ecosystem, as most of the current entrepreneurs are not focusing on creating an innovation that will stand the test of scale and also, address the challenges of broader communities.

Revenue Streams:

Our experience during the Sourcing phase of the SIA'16 highlighted that most businesses in the rural ecosystem focus on merely monetizing their product or service usage and have not looked at diversifying its revenue streams. However, there were a few limited players who thought out of the box and focussed on several revenue streams feeding the growth of their core product. For example, having banking and shopping facilities within the premise (for community toilets), undertaking IoT-enabled maintenance (with razor and blade strategy), and other such initiatives. For our cohort, one of the biggest learnings was to differentiate between the consumer (user of toilet) and the customer (buyer of services) and recognizing the different opportunities to monetize them.

Enterprise Stage:

Almost all the applications received for SIA '16 catered to innovations either at the post-concept pre-revenue stage or at an early stage of revenue with a product that is currently being used in a limited region. However, due to the high risk profile of the Sanitation sector in general, private investors employ highly selective screening criteria and were seeking to invest in innovations that have proven their viability, have begun to grow and are focused on marketing and sales. Due to the misalignment, the sector has so far been unable to generate much buzz and interest from equity investors.

Government Subsidy:

Due to the revised incentive schemes by the Government of India (GoI) to promote sanitation and usage of toilets, there is a sudden spike in interest within the business community to support the cause. However, we had to reject multiple applications for our cohort as they were completely dependent on government subsidies. This is a risky proposition in the long run as it is both unsustainable due to its dependence on variables beyond one's control. The sector is at an early stage and is currently exploring the strength of market economics.

Breakthrough Approaches to Solve Sanitation Challenges

We launched the Sanitation Innovation Accelerator 2016 programme with the aim of providing a platform that will help in discovering, supporting and scaling innovations in the rural Sanitation Ecosystem. Although the response was encouraging, we found that the innovations were incremental and not disruptive enough to address the key barriers to growth and to create large-scale impact. While certain initiatives in the urban space (community/public toilets) are working towards making it commercially viable, such traction is yet to be seen in the rural sanitation space.

Forward and Backward Linkages:

One of the interesting findings from managing the accelerator was the lack of diversified participation across the value chain. The representation was highly skewed towards a product innovation (toilet) at an individual or household level, without ensuring linkages with other elements in the chain. This was observed among both, for-profit and not-for-profit innovators. We learned during the process, which our cohort further validated, that the absence of forward and backward linkages is primarily due to lack of clarity on the role of public and private participation, as well as limited insights on gap areas and interventions that are required within the whole sanitation value chain.

Recommendations

Human Centric Design

Our experience with the sanitation ecosystem has shown us that the need of the hour is to ignite innovations in general and solve open-ended problems in particular that could be turned into for-profit social enterprises. Currently, the ecosystem is not mature enough to have innovations spread across the sanitation value chain. It needs a human-centric design approach to identify the challenge (gap areas in the value chain), directly address the gap and build economically viable, technically feasible and socially desirable ideas and then find entrepreneurs (rather than scouting for existing businesses). There needs to be a drive that is action-oriented, rather than telling the story of existing innovations (and rewarding them).

Dimension	Existing Model	Future Model
Starting Point	Begin with the scouting of existing innovations and working with the founder's vision	Observe to discover unmet needs
Approach	Analytical	Intuitive, organic, pragmatic dialogue
Starting Point	Refine the business model for the existing innovation	Solve a problem/need, develop multiple ideas rather than focusing on one, work with an entrepreneur to implement the solution
User	Entrepreneur, Investor	Communities, End-user

Scalable Innovation Program

The rural sanitation ecosystem needs an innovative spark to instill a “for-profit” mindset as well as unique startup approaches to solve existing sanitation challenges including prototyping, which is accompanied by a customer development process. A structured program is required to support existing and potential social enterprises in monetizing their business model and building a scalable framework even in the absence of a government subsidy program. The first step of this program could be to support interested non-profit organizations transition into scalable “for-profit” social enterprises.

International Exchange Program

The market will benefit hugely from the transfer of innovation from different markets. This could be implemented in the shape of a structured program that foreign social enterprises can leverage to adapt their products or services to rural markets in India, as well as build partnerships with existing sanitation businesses within the identified locations. By infusing best practices from other markets, existing and upcoming players will be forced to refine their business models through the development of efficient pricing, innovative value propositions, community driven marketing and distribution strategies. The exchange program could also involve short-medium term Fellowships and Internships. This will help in onboarding high-calibre and passionate individuals who would like to solve sanitation challenges as a business opportunity. Going forward, the SIA Alliance intends to structure a program on similar lines for building the pipeline of future innovations in the rural sanitation space, in addition to collaborating with international partners to launch and adapt innovations.

Grand Innovation Challenges

The ecosystem needs a boost of fresh ideas along with a collaborative and conducive environment that will ensure engagement with passionate individuals in crowdsourcing ideas to address the challenges faced by India's rural sanitation space. An open incentive-driven program to solve specific problems and issues by inviting all innovators, entrepreneurs, developers and researchers to submit disruptive ideas can transform the rural sanitation value chain.

B. INNOVATORS

Learnings

Traditional Non-Startup Approach

Most entrepreneurs whom we interacted with during our sourcing phase, targeted the B-2-B client segment and focussed purely on the supply side (creating a product) while neglecting the needs and requirements of the end-user community. This approach results in low acceptance of the innovation as customers are usually not willing to pay for or use what they do not aspire for or believe in. During the application stage, while we were identifying the capacity building needs of our applicants, we had to reject a number of organizations as they were purely seeking our support to get connections with the Gol for subsidies rather than building a user-centric product or a scalable business model which could be replicated in geographies beyond their current focus.

Managing Partnerships and Relationships

From our sourcing exercise, we found that most of the applicants had limited knowledge of the existing players, as well as low visibility of existing / potential business partnerships across the value chain, and technical and financial support opportunities from key ecosystem player including donors, investors and intermediary organisations. In the absence of a forum or a platform, most of the entrepreneurs in the sanitation ecosystem are working in silos. They are unable to coordinate and leverage each other's core competencies due to the unorganized nature of the ecosystem. Additionally, they have limited bandwidth to mobilize talented and motivated resources for effectively connecting with influencers and to implement their innovations. Due to this, we have seen duplication of efforts by entrepreneurs, run-of-the-mill approach towards problem solving and an inability to spread their innovation.

Recommendations

Knowledge Sharing Platform

One of the key development areas identified by our cohort members was the absence of a standard knowledge-sharing platform, responsible for limited entrepreneurial interest beyond hardware and building toilets. A collaborative platform is required to fill in the knowledge gap, a place where entrepreneurs and different stakeholders can regularly interact to identify expansion opportunities, explore commercially viable business models and review global best practices in Sanitation Innovations.

The SIA Alliance through its online platform (www.innovations4sanitation.com) will continue to serve the sanitation community and will regularly undertake various market landscaping studies to build thought leadership for the entrepreneurial ecosystem. As a next step, we are launching our dual state entrepreneurial study aligned with our key learnings. Under this study, we will assess the best business opportunities within the sanitation value chain and will include practical toolkits and checklists covering all three aspects of business: demand (profile of adopters, factors of adoption, buying process, procurement process etc.), supply (stakeholder analysis by skills, cost, availability, ease of doing business etc.) and enabling ecosystem mapping (incentive process, influencer community of MFIs, NGOs and government authorities).

Functional And Operational Support

Our experience with the accelerator and interactions with our cohort and the ecosystem clearly highlighted a need for structured sessions to augment entrepreneurs' capacity and provide expertise on an as-needed basis. From our capacity building and technical assistance program, we

- Research, MIS (Management Information System) and Data Handling
- Law and Legal Queries
- Financial Modeling and Accounting/Bookkeeping
- Communication, Design and Branding
- Government and Institutional Contracting

University Collaborations

To ensure a sustainable and scalable business model for rural sanitation, the support of academia for high quality R&D is an absolute requirement. With an university as a partner, entrepreneurs will be in a better position to leverage the government machinery, add credibility to their innovations, systematically pilot their innovations, manage programs on essential business skills, and receive grant funding tailored to match their specific requirements of a viable business model.

Dedicated Mentorship

Mentorship requires substantial investment of time and effort from both entrepreneurs as well as experts. Most of our existing mentors are either sector experts or impact investors with limited bandwidth to substantively support the innovators on a voluntary basis. The entrepreneurial ecosystem needs thought leadership by industry veterans and stalwarts to guide high-caliber innovators in the right direction and provide handholding support on both, the business side as well as on the technical front (for improving the quality of innovations). From our interactions with the entrepreneurial community within the sanitation ecosystem, most innovators demanded access to our community of industry practitioners and investors along with a tailored capacity-building curriculum specifically addressing the

- Identifying and diversifying revenue streams (100%)
- Strengthening end-to-end partnership models (100%)
- Exploring and developing distribution channels (50%)

Networking Events And Workshops

Real-time interaction is necessary to create an impactful value addition to potential and existing entrepreneurs. Virtual environment interaction needs to be blended well with in-person interaction to ensure maximum capacity building. Interactive events such as idea hackathons, investment roadshows and idea clinics are necessary to spark innovation and get an on-field feedback. Monthly events can be set up to provide visibility into programs, participants and partners and increase networking opportunities for innovators and entrepreneurs.

Corporate Immersion Programs

The immersion program ensures the participation of high quality corporate executives with innovative ideas. The program will be transformative for both, the sanitation sector as well as corporate organizations keen on sustainable CSR. The experience will not only give a fresh perspective in understanding the challenges of rural consumers and their sanitation needs, but also nurture compassionate leaders and generate a lot of goodwill for the corporation.



APPENDIX I: ABOUT THE SIX SHORTLISTED INNOVATORS

6 innovations was shortlisted from a pool of 55 applications. The innovations are spread across India and are primarily focused towards toilet technology.



BDWC (Bharathi Women Development Centre) provides microfinance loan facility for construction and renovation of toilets along with appropriate design and also gives onsite technical support. It has constructed 27,000 toilets till date and has benefited 135,000 people. By providing financial support through toilet loans and skill-based training to the local masons, it ensures a cost effective technology deployment. It also supports in linking of local Panchayat for cost compensation through subsidy.



www.3sindia.com

a Saraplast Enterprise

SARA PLAST PVT LTD, in partnership with Critical Practices LLC, provides a turnkey sanitation solution that controls the whole value chain – product development and manufacturing to implementation – to achieve the best solution at the least cost. The organisation is synonymous with innovative models for the sanitation business in India. The organisation is headquartered in Pune, India and services over 4 million people annually and focuses on the entire sanitation value chain, from infrastructure to collections and treatment of waste.



GARV TOILETS

nidan

GARV TOILETS provides a complete public sanitation solution that can be monitored on a real-time basis through high-end technology. The organisation aims to provide well maintained sanitation facilities and End-to-End Sanitation Solutions including supply, installation and maintenance of portable smart toilets in underserved areas and 500,000 people by 2019. The portable toilet units are made up of stainless steel and every equipment is welded or fitted with hidden nuts and bolts making it secured against any rugged use/vandalism. It is self-sustainable in terms of energy requirement (Solar Panels), waste decomposition (bio-digester) and maintenance (sensor-flushing and RFID tag monitoring). Real time data capture about various monitoring and unit health parameters helps against any maintenance or malfunction issues.

NIDAN facilitates construction of sanitation facilities and builds WASH awareness in urban and rural areas in Bihar and Jharkhand. It started out with collectivizing the unorganized poor through self-help groups (SHGs), issue based groups, cooperatives and even small businesses. The organisation currently reaches out to 125 slums, 400 villages and 300 schools across eight districts in Bihar and two districts in Jharkhand. It also focusses on enabling access to funds for construction & repair of sanitation facilities, disseminating information about the program's effect on adolescent girls and advocating with the government on policy and plans.



YouthAid Global
Services Pvt. Ltd.

WATSAN

YOUTHAID.IN provides a one-stop solution that improves sanitation acceleration by developing human capital and addressing supply chain gaps in high priority states. YouthAid.in address supply chain gaps to accelerate Sanitation Access in Scale and Speed in rural areas. The company has trained 35 youths as CLTS facilitators, 15 youths as masons, over 100 toilets already constructed and 500 rural poor benefited. It focusses on Sanitation – Behaviour Change, Technical Assistance, Skill Building and construction & promoting entrepreneurs in the sector, including innovative technological options.

WATSAN ENVIROTECH PRIVATE LIMITED provides a turnkey solution that enables manufacture of one toilet per day. It is a disruptive ideation from 'Constructing' toilets to 'Manufacturing' toilets by providing skill based rural employment in making fibre glass based super structures. It uses recycled glass fibre dumped every month by Indian Wind Mill Blade.

APPENDIX II: THE MENTOR BOARD

The board is an esteemed group of technical experts, industry veterans, institutional thought leaders, seasoned serial entrepreneurs and impact investors.

Mentor	Type	Designation	Organisation
Alex Prather	Investor	Program Lead (Speed2Seed)	Unitus Seed Fund
Naveen Jha	Investor	Chief Executive	Deshpande Foundation
Kalimuthu Arumugam	Technical Expert	Program Director	WASH Institute
Manohar Esarapu	Business Expert	Group Manager (Digitalization of Enterprise)	Bosch India
Krishna Chaitanya Rao	Technical Expert	Program Lead	International Water Management Institute (IWMI)
Sujoy Mojumdar	Technical Expert	Water Sanitation and Hygiene	UNICEF
Ben Grozier	Investor	Operations Associate Specialist	Beyond Capital Fund
Kirti Mishra	Business Expert	Chief Executive & Founder	Eccociate
Bhuwan Ranjan	Business Expert	Senior Manager	Eureka Forbes Ltd
Suneet Singh Tuli	Business Expert	Chief Executive & Founder	Datawind
Dipika Ailani	Investor	Associate Program Officer	Gates Foundation
Raghava Neti	Investor	Senior Infrastructure Specialist	The World Bank
Ambuj Jhunjhunwala	Business Expert	Trustee	Swami Vivekanand International
Antonie De Wilde	Technical Expert	Managing Partner	PT. Trumi Lestari Indonesia
Sahil Dharia	Investor	Chief Executive & Founder	Soothe Healthcare
Alpana Srivastava	Investor	Investment Associate	Asha Impact
Jiten Manglani	Investor	Vice President	Beyond Capital Fund
Sreejith Nedumpully	Investor	Director	Upaya Social Ventures
Swapnil Chaturvedi	Technical Expert	Chief Executive & Founder	Samagra
Vishwanathan S.	Business Expert	Vice President & Startup Coach	FORGE and Coimbatore Innovation and Business Incubator
Peter Scheuch	Business Expert	Founder & Managing Director	Ennovent
Sachin Golwalkar	Technical Expert	Chief Executive & Founder	United Way Delhi
Dr. Rajat Chabba	Business Expert	Chief Operating Officer	Agrasar
Prakash Kumar	Technical Expert	Team Leader	Care Options IPE Global Consortium
Prabhat Pani	Business Expert	Project Director	Tata Water Mission, TATA TRUSTS for DFID SWASTH Bihar Project

APPENDIX III: EXPERIENCE AND SYNERGIES

The partners in this alliance have identified a number of synergies that reiterates that collaboration is a more effective route to achieving the core alliance objective.



Ennovent has extensive experience of building and managing Accelerators and has sourced over 3,350 innovations globally through 11 crowdsourcing campaigns. Since 2008, Ennovent has worked with around 60 clients to accelerate over 250 innovations in 15 countries. It has launched 70+ for-profit early-stage enterprises in low-income markets through startup services and structured over 10 investments via its own investment holding and the Ennovent Circle. Ennovent supports investors, development agencies, foundations and others to accelerate innovations. As part of the alliance, Ennovent shared the responsibility of:

- Provide overall leadership, contract and Accelerator management
- Sourcing sanitation innovations and accelerating them with the capacity building program
- Undertake fundraising showcases and investment facilitation
- Connect experts, mentors, service providers and investors

IRC is an international think-and-do tank that works with governments, NGOs, entrepreneurs and people from around the world to find long-term solutions to the global crisis in water, sanitation and hygiene services. With 45+ years of experience, IRC runs large-scale programmes in 7 focus countries in Africa, Asia and Latin America and projects in more than 25 countries. A team of around 80 staff members supports its operations across the world. IRC provided its international expertise in sanitation worldwide to support the development of the Accelerator:

- International experience and knowledge sharing
- Technical expertise and advisory support in the sanitation domain
- Mentoring and monitoring support towards technical assistance
- Innovation quality review, content supervision and support



Taru has over 20+ years of advisory experience in addressing India's development challenges with deep expertise in India's WASH space. It has implemented 200+ projects on institutional, financial, economic, social and technical issues across diverse public systems, cultures and corporate formations. Taru has worked with innovators, corporations, multilateral agencies and government on rural and urban WASH issues including policy analysis, strategy development, action research, programme design, project management, assessments and evaluations, campaigns and training. As part of the alliance, Taru provided:

- Technical expertise and advisory support in the sanitation domain
- Linkages to government, corporations and for-profit innovations
- Logistics and administration support
- Knowledge and expertise towards capacity building

APPENDIX IV: ABOUT THE LEAD TEAM



Vipul Kumar
Director- Clients (Ennovent)

15+ years of experience in management consulting and as an entrepreneur. He co-founded and setup the Indian operations for a US-based research and consulting firm, EmergiSphere Inc., which helps clients enter and grow in emerging markets through conceptualization and pilot operations of innovative business models. Prior to this, Vipul co-founded PiVOT Consultants, a boutique management-consulting firm advising clients across corporate strategy, investments and turnaround management. He has advised several companies in building business plans and to raise investments at early and growth-stages. He also spent over 7 years working with Infosys in USA, Germany and Japan. Vipul holds a B.E from the National Institute of Technology, Trichy and a post graduate degree in Management from ISB, Hyderabad.



Manu Prakash
Director & Practice Head- Policy & Public Services - TARU Leading Edge

16+ years of Experience in designing and implementing large scale water and sanitation programs in India and worked closely with institutions like TARU, World Bank, WSP, UNICEF, UNDP, and Ministry of Drinking Water and Sanitation. One of the key architects of 'Global Handwashing Campaign' in India, he also served as an Advisory Committee Member on Slum Sanitation of Delhi Urban Shelter Improvement Board. He is also the initiator of 'Sanitation for Transformation Approach' (SfTA) with a vision to improve the sustainable sanitation outcomes. A sanitation passionate, he has contributed in many sector documents; ranging from sanitation programing and technologies, solid and liquid waste management, to communication and monitoring systems. With a Master's degree from Delhi School of Economics, he also brings cross sectoral experience from his engagements in Urban Development, Health, Governance, Social Business, CSR and Sustainability.



Ingeborg Krukkert
Sanitation & Hygiene Specialist (IRC)

15+ years of experience in sanitation and hygiene space, Ingeborg is currently leading the Asia and India Country as a Program officer. In last 5 years, she has led IRC support for the WASH program of BRAC in Bangladesh, has provided technical assistance on behaviour change communication, supply chain strengthening; monitoring (using smartphones, QIS and ActivityInfo) and documentation for BRAC WASH in Bangladesh. She has also led hygiene effectiveness study, a part of the Sustainable Sanitation and Hygiene for All Programme – Phase 2 in Bhutan and Nepal. Most recently, she is working with local partners in India to support the Swachh Bharat Mission with a focus on (practical) capacity strengthening of government and WASH sector players and sanitation businesses. She has a Post Graduate Diploma in Public Health from the London School of Hygiene and Tropical Medicine, an MA in Anthropology, BA in Psychology and training in information technology.



Ruchika Shiva
Country Coördinator, (IRC)

12+ years' experience of working in the development sector on child rights and WASH at varied capacities, with an interest in WASH with a gender and child rights perspective, Ruchika is the Country Coordinator for India, IRC and is involved in initiating and managing partnerships, conceptualizing projects with partners to develop the India Country Program of IRC. She is also presently involved in the Community Water Plus project and WASH IT project – a Dutch strategic partnership on WASH. Prior to IRC, Ruchika has worked with the India Chapter of Plan International for 7 years in varied capacities. She played a crucial role in managing programs in Bikaner (Rajasthan) and urban slums in Delhi. She actively managed large grants specifically on School WASH in 7 states (Uttarkhand, Uttar Pradesh, Bihar, Odisha, Rajasthan, Delhi and Andhra Pradesh). Ruchika, in the early stages of her career, has also worked with grassroots organizations focusing on children in difficult circumstances.



Shubho Broto Das
Manager – Startup
Services Ennovent

8+ years experience in consulting and entrepreneurship. Shubho has been involved in market feasibility study, business review and due diligence for multiple client projects including GACC (U.N.-sponsored public-private initiative) and the Global Development Network (GDN). Prior to Ennovent, Shubho co-founded TruLEAP Ventures that specializes in making online brands by providing branding strategy and handholding support to implement digital campaigns. He also co-founded The Little Food Factory which brings several unique concept based curated health food including the miracle probiotic drink (Bangalore Kefir Company) among others. He currently serves as a Board of Advisor to both the startups. Previously, he also worked with Essex Lake Group to execute Re-engineering initiatives within organization and drive implementation of near-term profit enhancement for Financial Industry. Shubho started his career as Research Analyst with McKinsey & Co. with an expertise in transactions service line (MSAs, JVs / alliances, divestitures and private equity) due diligence.



Priyesh Salunke
Sector Lead – CSR & Sustainability
TARU Leading Edge

8+ years of experience in the field of Sustainability, CSR and Social Impact. He specialises in Business Strategy, Business Development, Project Planning, Design and Management and Marketing & Communications in sectors like Water Management, Sanitation, Waste Management, Smart Cities and Green ICT and has expertise and knowledge in clean technologies, business management and projects. He has previously worked in companies like ETI Dynamics, Veolia Environnement, Aquachem Enviro Engineers and DFPCCL; he has led business initiatives and worked closely with sustainability and clean technology companies globally to address market entry, scale-up and technology deployment challenges through pilot/commercial, social impact and CSR projects. During his career, he has played an important role in the design, planning and management of many social impact projects in rural India. He holds a bachelor's degree in Chemical Engineering from Mumbai University and a Post Graduate degree in Business Administration from ESSEC Business School, Paris.

ACKNOWLEDGEMENTS

This report has been prepared as a part of the Sanitation Innovation Accelerator 2016 and focuses on the pilot phase of the Accelerator. This report follows the progress of the SIA platform and the engagement with various stakeholders at all levels in pushing innovation and entrepreneurship across the Sanitation sector and the value chain.

This report was conceptualised and drafted by Ennovent, IRC and Taru Leading Edge. Shubho Broto Das - Manager – Startup Services (Ennovent), Ruchika Shiva - Country Coördinator (IRC) and Priyesh Salunke - Sector Leader – CSR & Sustainability – (TARU Leading Edge) consolidated all inputs in one document, under the guidance of Vipul Kumar - Director-Clients (Ennovent); Ingeborg Krukkert - Sanitation & Hygiene Specialist (IRC); Manu Prakash - Director & Practice Head - Policy & Public Services (TARU Leading Edge).

Ideas and insights from a number of experts and mentors have been incorporated in this report to ensure valuable, inclusive and comprehensive compilation of this study and pilot, which will be beneficial for all stakeholders in the sanitation sector and value chain; be it policy makers, entrepreneurs, companies and technology owners alike. Among our mentors, we would like to extend special thanks to Naveen Jha, Kalimuthu Arumugam, Krishna Chaitanya Rao, Sujoy Mojumdar, Ben Grozier, Bhuwan Ranjan, Dipika Ailani, Raghava Neti, Ambuj Jhunjhunwala, Antonie De Wilde, Jiten Manglani, Sreejith Nedumpully, Swapnil Chaturvedi, Sachin Golwalkar, Dr. Rajat Chabba and Prabhat Pani for their inputs and their overview of the sector.

Ennovent, a global innovation company for low-income markets, managed the overall development and execution of Sanitation Innovation Accelerator. Ennovent works with clients, partners and community to jointly develop, fund and implement customised innovation solutions that create sustainable impact and fair profits. These solutions discover, startup, finance and scale the best innovations for sustainability in developing countries. Ennovent works to achieve impact in several regions globally with specialised focus on Asia, Africa and Latin America. Ennovent's Innovation Community comprises of 20+ Investors, 60+ Experts, 100+ Mentors and 30+ Service Providers.

IRC, an international think-and-do tank, was instrumental in sharing its international sanitation experience and technical inputs across different stages of the accelerator program as well as providing mentoring and monitoring support and quality review. IRC works with governments, NGOs, entrepreneurs and people from around the world to find long-term solutions to the global crisis in water, sanitation and hygiene services. The key ethos behind the work of IRC is sustainability, in order to create viable, lasting water and sanitation services. With 45+ years of experience, IRC runs large-scale programmes in 7 focus countries in Africa, Asia and Latin America and projects in more than 25 countries. A team of around 80 staff supports its operations across the world.

Taru Leading Edge with its 20+ years of advisory experience in addressing India's developmental challenges, supported the program by facilitating connections with mentors from the government organisations, donor agencies and CSR initiatives, in addition to providing on-ground logistics. Taru has implemented 200+ projects on institutional, financial, economic, social and technical issues across diverse public systems, cultures and corporate formations. Taru has worked with innovators, corporations, multilateral agencies and government on rural and urban WASH issues including policy analysis, strategy development, action research, programme design, project management, assessments and evaluations, campaigns and training.

The alliance welcomes any views and feedback on any aspect of this report. You can write to us or email us at sia16@ennovent.com

SANITATION INNOVATION ACCELERATOR

2016



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