

Clean India: Stimulating Behavior Change and Usage

17th April 2015, New Delhi

At a population of 1.2 billion, a sixth of humanity lives in India. More than half of the country lacks access to toilets. In response to this crisis, the Government of India has launched the *Swachh Bharat*, or Clean India, mission. This cross-sector campaign aims to direct resources to sanitation infrastructure and mount behavior change initiatives designed to promote adoption of a complete Water, Sanitation, and Hygiene (WASH) ecosystem.

Convening

The University of Chicago Center in Delhi, in conjunction with the University of Chicago Booth School of Business's Social Enterprise Initiative and nonprofit Toilet Hackers, is bringing together academics and practitioners in 2015 to convene on the topic, facilitated by resource partner Samhita Social Ventures.

Convening objectives

From measuring the speed of light to developing the efficient market hypothesis, the University of Chicago has become known for rigorous academic inquiry and a culture of open dialogue. In short, we believe: ideas compete, people collaborate.

In this spirit, the Clean India convening hopes to achieve the following objectives:

- Drive critical thinking among stakeholders on the missing links in WASH
- Provide a platform to establish partnerships in support of critical aspects of the WASH ecosystem (such as technology platform, application tools, building capacity)
- Develop an "agenda for action" for key stakeholders
- Identify opportunities for academic research

Speakers and audience

The convening will bring together a multitude of stakeholders including leading academics, government, sector experts, multilateral organizations, national and international foundations, major companies, NGOs, and social enterprises.

The convening will feature an address by Richard H. Thaler, Charles R. Walgreen Distinguished Service Professor of Behavioral Science and Economics, faculty director of Chicago Booth's Center for Decision Research, and president of the American Economic Association. Thaler's book, *Nudge: Improving Decisions About Health, Wealth, and Happiness*, was a global bestseller and the inspiration for the UK government's "Nudge Unit," which applies insights from behavioral economics and psychology to public policy and services.

Agenda

In order to realize the objectives highlighted above, the agenda has been designed to strike a balance between stimulating thinking and catalyzing action, with the following unique features:

- Cutting-edge research on behavior change to influence practices
- “Voices from the Ground” — NGO perspectives on challenges and solutions while implementing WASH projects
- Interactive breakout session on three critical aspects of WASH — finance, capacity building, and strengthening government systems

Time	Activity
9.00 am – 9.30 am	Registration and tea
9.30 am – 9.40 am	<p>Welcome note</p> <p>Robert H. Gertner, Joel F. Gemunder Professor of Strategy and Finance; Deputy Dean for the Part-Time MBA Programs; Faculty Codirector, Social Enterprise Initiative, <i>University of Chicago Booth School of Business</i></p>
9.40 am – 10.20 am	<p>Keynote Address</p> <p>Richard H. Thaler, Charles R. Walgreen Distinguished Service Professor of Behavioral Science and Economics; Faculty Director Center for Decision Research, <i>University of Chicago Booth School of Business</i>, and President, <i>American Economic Association</i></p>
10.20 am – 11.10 am	<p>Panel Discussion - Taking Stock and Setting the Context</p> <p>Nitya Jacob, Head of Policy, <i>WaterAid India</i> Vijay Chadda, Chief Executive Officer, <i>Bharti Foundation</i> Kathryn Stevens, Deputy Mission Director, <i>USAID</i> Divyang Waghela, Assistant Development Manager, <i>Tata Trusts</i> Vipin Arora, Project Director, Corporate Partnerships, <i>Tata Consultancy Services</i> Moderator - Luis Miranda, Global Advisory Board (Asia Cabinet), <i>University of Chicago Booth School of Business</i></p>
11.10 am – 11.20 am	<p>Voices from the Ground – Sujata Khandekar, Co-Founder and Director, and Supriya Sonar, Activist, “Right to Pee Campaign,” <i>CORO</i></p>
11.20 am – 11.40 am	<p>Group Photo and Tea Break</p>
11.40 am – 12.40 pm	<p>Panel Discussion - Behavior Change and Community Ownership</p> <p>Ram Prasad, Co-Founder, <i>Final Mile Consulting</i> Jayamala Subramaniam, Chief Executive Officer, <i>Arghyam</i> Sumeet Patil, Chief Executive Officer and Research Director, <i>NEERMAN</i> Sharon Barnhardt, Assistant Professor, <i>Indian Institute of Management – Ahmedabad</i></p>

Time	Activity
	<p>(IIM-A); Affiliated Professor, <i>Abdul Latif Jameel Poverty Action Lab (J-PAL)</i> K.K. Kishore Kumar, Chief Engineer & Project Director, <i>State Water and Sanitation Mission, Andhra Pradesh (rural)</i> Dean Spears, Executive Director, <i>r.i.c.e.</i>; Visiting Economist, <i>Centre for Development Economics at the Delhi School of Economics</i> Ravi Bhatnagar, Manager, External Affairs, <i>Reckitt Benckiser Group</i> Moderator - Priya Naik, Founder and Joint Managing Director, <i>Samhita Social Ventures</i></p>
12.40 pm – 12.50 pm	Voices from the Ground – Sojan Thomas, Manager, <i>Gram Vikas</i>
12.50 pm – 1.40 pm	<p>Panel Discussion - Leveraging Technology</p> <p>Mangesh R. Gupte, Director and Head of CSR, <i>Dr. Reddy's Laboratories</i> Pratima Joshi, Trustee and Cofounder, <i>Shelter Associates</i> Upneet Singh, WASH Specialist, The Water and Sanitation Program (WSP), <i>World Bank</i> Vaidyanathan Krishnamurthy, Head of Implementation and Innovation, <i>Samhita Social Ventures</i> Madhu Krishna, Program Officer, <i>Bill and Melinda Gates Foundation</i> Moderator - Manas Rath, Independent Consultant</p>
1.40 pm – 2.25 pm	Lunch
2.25 pm – 3.15 pm	<p>Panel Discussion - Integrating Design in WASH Projects</p> <p>Swapnil Chaturvedi, Founder, <i>Samagra</i> Anagha Mahajani, General Manager and Head, Program Research and Monitoring, <i>Ambuja Cement Foundation</i> Shubhra Mittal, Policy and Training Manager, <i>Abdul Latif Jameel Poverty Action Lab (J-PAL) at Institute for Financial Management and Research (IFMR)</i> M. Subbaraman, Director, <i>SCOPE</i> Moderator - Ayush Chauhan, Cofounder, <i>Quicksand Design</i></p>
3.15 pm – 4.15 pm	<p>Group work</p> <p>Moderated by Vaidyanathan Krishnamurthy, Head of Implementation & Innovation, <i>Samhita Social Ventures</i></p> <p>Group activities will explain the need, challenges and proposed solutions under the following themes :</p> <ul style="list-style-type: none"> • <i>Finance: financing WASH projects and systemic needs</i> • <i>Capacity Building at every level: Government, Companies, Institutional Donors, Implementing Organizations, Panchayats</i> • <i>Strengthening government systems</i>

Time	Activity
4.15 pm – 4.25 pm	Voices from the Ground – Praveen Aggarwal, Chief Operating Officer, <i>Swades Foundation</i>
4.25 pm – 4.45 pm	Tea Break
4.45 pm – 5.05 pm	Impact of Sanitation on Education and Health Outcomes in Rural Indian Schools A presentation by Anjali Adukia, Assistant Professor, <i>University of Chicago Harris School of Public Policy</i>
5.05 pm – 5.15 pm	Voices from the Ground - S. L. Sathiya Nesan, Director, <i>Leaf Society</i>
5.15 pm – 6.15 pm	Collective Impact in Sanitation An interactive workshop by John Kluge, Cofounder, <i>Toilet Hackers</i>
6.15 pm – 6.25 pm	Summary - Krishnan Neelakantan, Joint Managing Director, <i>Samhita Social Ventures</i>
6.25 pm – 6.30 pm	Vote of thanks - Bharath Visweswariah, Executive Director, <i>University of Chicago Centre in Delhi</i>
6.30 pm onwards	Drinks and Dinner

Section 1: Keynote Address

Richard Thaler

Address:

- General concepts relevant to this problem: based on *Nudge*.
- Economic theory core premise
- Design public policy interventions for humans: Libertarian paternalism (Nudging) –*Libertarian*; protecting individual right to choose, *Paternalism* doing what you can do to protect welfare of people—**Choice Preserving**
- Encouraging better choices through Choice Architecture:
 - Designing environment in which people make choices through choice architect.
- Principles for Nudging for Good
 - **Make it salient**
 - Urinal in Amsterdam—etching housefly near the drain of the urinal to encourage less spillage.
 - What is a Nudge?
 - Attracts attention and influences behavior—using green footprints to lead to trashcans.
 - Door handles that are push or pull?
 - **Easy**: remove barriers preventing people from doing what they want to do.
 - **Social Norms**: people want to comply with social norms; people will do X to complete social norms.
 - **Habitual**: make it a habit—seat belts.
 - **Fun**: trashcans that can make noise; making it fun can increase usage.
 - **Emotional**: organ donations through sports team in Brazil.
- Problems of Sanitation are hard and all the answers are behavioral—figure out what works!

Questions:

1. Education, organization—how good of a technique of badgering?
 - a. Technique stinks at the first glance. What about text reminders? Stop short of pestering and badgering
2. Isha Ray, UC Berkely—can you talk more about “all the answers are behavioral?”
 - a. Sanitation is a behavioral problem. It’s about human behavior—long run solutions are to change social norms and habits. There isn’t a single recipe; must try a lot of things and small changes.
3. Swapnil Chaturvedi –Samagra - Using social norms on why they should pay for toilets is successful; challenge is that policy makers think it’s fluffy. How do you convince policy makers this works?

- a. Need first trial to show concrete data. It wasn't a mistake that the first example was the UK tax compliance letter rewrite. Success is the best way to show this.
- 4. Do we know that individuals behave differently as groups than as individuals? Are nudge approaches different for group and individual behavior?
 - a. Wisen-book about group decision-making. There are all kinds of things, like polarizations. The loudest member of the group has more influence than he or she deserves. If the problem is mostly groups, read this book.
- 5. What was the suggestion for the Greek Tax Compliance problem?
 - a. One early thing was to take photos of the swimming pools. Something like 5% of the swimming pools had declared they had pooled, so there was a new tax for it. For most people, compliance rate is high even though audit rate is tiny. Needed to figure a way to increase compliance.

Section 2: Panels

Taking Stock & Setting the Context Panel

Participants:

- **Nitya Jacob, Head of Policy, WaterAid India**
- **Vijay Chadda, Chief Executive Officer, Bharti Foundation**
- **Kathryn Stevens, Deputy Mission Director, USAID**
- **Divyang Waghela, Assistant Development Manager, Tata Trusts**
- **Vipin Arora, Project Director, Corporate Partnerships, Tata Consultancy Services**

Moderator:

- **Luis Miranda, Global Advisory Board (Asia Cabinet), University of Chicago Booth School of Business**

Introductions:

- Swachh Bharat isn't the first program of its kind, but it's getting a lot of buzz
- **Nitya Jacob, Head of Policy, WaterAid India:**
 - Focus on drinking water and sanitation, in India for 26 years in 11 states and 53 districts. Work from Gram Panchayat to the central government level. Work with district authorities to smooth implementation and planning. Working with state government to improve implementation plan. Behavior change to create demand and usage for alter. How do we ensure they are going to be used?
- **Vijay Chadda, Chief Executive Officer, Bharti Foundation:**
 - Corporate foundation focused on education with a focus of the girl child. Through 250 schools across 6 states, 42,000 kids focused in government schools. 17th August 2014, chairman and Tata Consulting Services to commit 100 crores to Swachh Bharat. Focus on Ludhiana villages in Punjab, one toilet to every household, and one girl toilet for schools. In over 150 villages. School

children are an important part of this campaign. Sanitation is part of the whole schooling program. All schools are running this in sanitation. Mobilize children to bring about mind change.

- **Kathryn Stevens, Deputy Mission Director, USAID:**
 - Here because of the numbers. 65 million Indians living in cities without adequate access to water or sanitation. Great challenge on economic productivity and workdays. Connected to water and sanitation. Maternal and Child Health for a focus. Doing three things 1) supporting government with Gates foundation. Establishing best practices to more easily scale up what is happening 2) network of PPP in 5 cities providing scalable solutions then taken elsewhere 3) private sector led behavior change coalition to support nudging to bring everyone together.
- **Divyang Waghela, Assistant Development Manager, Tata Trusts:**
 - Oldest philanthropy in counties, since 1995 working on livelihood in communities, in equal opportunities for quality of life. If you aren't stopping, where are the leakages? It's not a holistic approach. With the guiding principles, started initiative called Tata Water Vision. Initiative started 3 months before Swachh Bharat. Three pronged approach: 1) looking at integrated solutions for drinking water, sanitation services and hygiene. Create a system where all things can be inclusive 2) What are the gap areas where nothing is happening? Affordable technologies is the key gap. 3) Creating professionals on the ground. Huge issues for human resources who work in sanitation. Building partnerships-all have financial resources. How can we create that impact?
- **Vipin Arora, Project Director, Corporate Partnerships, Tata Consultancy Services:**
 - TCS pledged 100 crew to build toilets for girls in government schools. Special task force for deeper focus. Want a consultant-led approach. Where are we in the situation of sanitation? Looking at data and ground realities, the current situation is one there is a requirement, maintenance, safety issues, (safety norms not followed), ventilation, location. To address all issues, address 1) Right infrastructure (super structure of toilet, waste management, and water management) 2) Education awareness and behavior change. Needs to happen throughout the process. 3) Maintenance and cleaning on regular repairs. All required to solve on the ground. Approach is to get to 30+ companies.

Question: Will these toilets get built?

- **Arora:**
 - Need to worry about outcome rather than input. Not just about numbers, but focus on quality need to focus on stakeholder management, and involve every entity, ensure they are part of the partnership. Looking at the design part, design is important too: whether the structure is going to be used. Focus on quality solutions rather than cost solutions. Looking at the basic feature: if it doesn't work, then people won't use it. Focus more on the quality it will lead to better usage.
- **Jacob:**
 - Looking at performance of last year, at halfway mark, this budget only says 5 million toilets. Need 2.6 toilets per year. Not ramped up yet. Money won't be short, but no people on the ground to make the toilets.
- **Chadda:**
 - Problem in finding right people for building toilets. 3K of toilets are complete. What corporates are committing will happen. What government is going to do is still a question. Will toilets be used? Something we have to work with. Not just about rural India or urban slums, even about fancy localities in urban India. How do they live? How they treat Garbage? Litter? It's about mindset. If there is no punitive action, nothing will change.

- **Stevens:**
 - Support those with these ambitious goals. There is so much data out there, there's awareness among those involved in the campaigns; you have to pay attention to the maintenance and sustaining of issues. It's about building them out there; they have to be built. Small innovation, low tech stuff. Ensure enough light so it's safe for women.
- **Waghela:**
 - There is a conflict between ambition and solution there. People are looking at easy solutions because of the issue with time. We are undermining aspirations of communities. In Gujarat, working with 25,000 communities. 20-25,000 rupees for cost of toilet. Communities are looking at building bathroom with toilets. Communities ready to invest resources, but is there enough resources? It's important to look at more options than prescriptions.
- **Arora:**
 - Toilet of Rs. 12,000 won't last, but a more expensive toilet will be better quality. Create a sense of ownership. Education isn't a problem in Punjab-most houses have toilets. No challenge in people understanding the need for toilets, but there can be challenges for ownership.

Question: How does one create demand for toilets? (keywords - conflict between aspirations, quality, low cost solutions, children as agents of change)

- **Miranda:**
 - 15% of allocation is for IEC, communication, only spent 5.5% of that 15%. This year budget has gone down from 15% to 8%. Possible to allocate toilets/ to convince people to use it? How will you create the demand?
- **Arora:**
 - Must be done throughout the process, not just after building. Implicit demand, before implementation, you need to start implicit demand. Before implementation, involving right stakeholder, what works on the ground and what doesn't? Need to get input from children. During implementation, right set of design—foul smell and lighting, doing the proper solution, people will love to use it. For post implementation 1) use toilet 2) clean toilet 3) clean oneself.
- **Stevens:**
 - In Bangalore, clean water to 32,000 household at low cost. Water house international, private sector partners, not motivated to reach last mile. There is a lot of demand in Bangalore. Were able to bring people together and help reach people where there was that demand.
- **Chadda:**
 - In West Bengal, students gave up scholarship money to give individual contribution to build toilets in their own house. Working on mindsets and create awareness and hygiene and sanitation.
- **Miranda:**
 - Can you talk about your role with kids?
- **Chadda:**
 - Automatic that for new admission, they are taught basic hygiene, and that it back home. Running campaigns, like street plays to do awareness. Engaging other schools in the vicinity. More kids coming out outside and in their own roles.

- **Waghela:**
 - Behavioral changes of communities and government system, both have targets. Huge demand to create, but no supply available. Will become a negative impact on demand. Important to work on both ends, and create an enabling environment where supply chain is all available—linkages, or finances. Behavioral changes, that 12,000 RS. Is available. If it's not coming, then no one will build a toilet. This is a personal need you need to build for that.
- **Chadda:**
 - Most households are waiting for government to come, even if they have money, they think it's the job of the government.
- **Jacob:**
 - Subsidy is a perverse incentive. Not hygiene that should drive behavioral change, it's something else. Community impact but individual responsibility. Their local government is fractured; states are all different in the kind of agency involved. When panchayat or rural dev. Department is involved, it's much better.

Question: What role can partnerships play? How can partnerships create better outcomes?

- Not just with NGO, also with government, citizens, corporates.
- **Arora:**
 - For partnerships, it's a big ecosystem, need to look at customer, central gov. and to schools for kids. They are the ultimate customers. If you look at the providers, one company can't do a massive scale implementation. Need to work in a partnership. Then the collaborators: need to collaborate with people like us. Need to involve them throughout the process. Extremely important. Need to work in an ecosystem for large impact.
- **Stevens:**
 - Urban wash alliance of 5 partnerships PPP, Indian and multinational, local and state governments to undertake water and sanitation in large Indian cities. Approach applying across portfolios, it's becoming a global model for aid. Brings Indian innovation, for magnified results and scale, 20 bringing additional resources, 1\$ matched by 6\$. Learned that everyone needs to benefit, not just about logos on a sign.
- **Chadda:**
 - Importance on enhancing the impact—partnerships for within schools, communities and corporates. All partnerships are critical. Need to see what happens and what works.
- **Waghela:**
 - Knowledge and resource partnership. How to influence policy-holders; what is the value addition? In this context, how can the coalition be made? Diverse knowledge and expertise. Knowledge partnerships—there is still a vacuum, need to see with a single vision for sanitation.

Question & Answer with Audience:

- All the contributions are important, something we need to understand is that the toilet is not a solution. Large number of people live in the slum, also a housing problem, until you converge some

of the program and scheme, how do you converge them is really important. Ahmedabad, slum networking program to converge housing, toilets, and not infrastructure for waste disposal. If you only focus on one issues, then it's going to be a problem

- **Stevens:**
 - It's important to focus on cities, because 1 billion will be moving into cities in the next years. Most activity focused in rural areas.
- Do you scale up solutions or focus one on one?
 - **Waghela:**
 - Important to bring external and local solutions. Transportation cost in the hills – a solution is to use bamboo toilets. See local solutions, then scale up within the geographies. Most strategies look at this to build up on local knowledge.
 - **Stevens:**
 - Partnership with MOUD to scale up in India, and what is working in globally.
- Is there a platform where everything is listed? So there is a two-way communication?
 - **Jacob:**
 - Information on ministry website, a lot of it is in the ministry website. Indian sanitation portal is available too.
- Many schools don't have space or electricity. It's important to see existing resources, to save money. To construct millions of toilets you need the skilled manpower. You don't have the manpower from the local village. Cleaning staff is going to be a problem too.
 - **Arora:**
 - Way we are building toilets, the way we believe toilet without good implementation that won't have any impact, need to have water in toilet. In building toilets, water is the largest problem. Need to fill objective of the toilet. With the space, have to work with school authorities. Space is available in the school—just a priority. Manpower, multiagency is a problem, not just too many vendors and the quality of the solution. To inspect school—need multiple agencies working. Final solution will need an end to end solution. Need advanced checklist.

Moderator Review:

- **Miranda:**
 - For toilets getting build, in the date, we are running behind schedule. Not enough people to build toilets. Cleaning toilets is another problem; to create demand, and to create demand before we start building toilets. Post construction, how to make the demand for toilets—anchoring and perverse incentives. Role of partnerships: important because the problem is large, no experience in the area. Need to bring diverse skill sets in this, and to involve the customer. Need to create a space where everything is shared—can we reuse existing platforms?

Behavior Change & Community Ownership Panel

Participants:

- **K.K. Kishore Kumar, Chief Engineer and Project Director, State Water and Sanitation Mission, Government of Andhra Pradesh.** Kishore Kumar comes with 36 years of experience in government. Since 2000, he has been closely involved with the Rural Water Supply and Sanitation department, looking after the government of India's sanitation programs such as Total Sanitation Campaign, Nirmal Bharat Abiyan, and the current Swachh Bharat Mission.
- **Dean Spears, Executive Director, r.i.c.e., and Visiting Economist, Centre for Development Economics at the Delhi School of Economics.** Dean Spears, executive director at the Rice Institute, researches children's health and height, sanitation, latrines, and hand soap. He has also done research about decision-making by poor people and the social psychology of interaction between richer and poorer people. Spears has worked in El Salvador, India, and South Africa. He has a master's degree in international studies from the University of Oklahoma. He has an MPA in development studies and a PhD in economics from Princeton University. He is currently a visiting economist at the Centre for Development Economics at the Delhi School of Economics.
- **Jayamala Subramaniam, CEO, Arghyam.** Jayamala Subramaniam is currently the CEO of Arghyam, which is a foundation focused on safe and sustainable water and sanitation. Arghyam is particularly interested in decentralized, local solutions for water and sanitation security with emphasis on resource protection. Arghyam's work in sustainable sanitation is focused on work before and after toilets and understanding the role of behavior change to enable faster adoption of sanitation is a key interest area. She has over two decades of experience in strategy and execution in banking, education, agro-technology, ITES, and the not-for-profit sector across countries. She has held senior positions in Commercial Bank, Qatar, Capital One, India, TutorVista, and ITC Ltd. She has a management degree from the Indian Institute of Management, Calcutta.
- **Ram Prasad, Cofounder, Final Mile Consulting.** Ram Prasad is a founding partner of Final Mile Consulting, a company built on the principles of behavioral economics, cognitive neuroscience, and design. Prasad leads the practice areas of sanitation, safety, and health care. In the area of sanitation, Prasad leads projects aimed at understanding barriers and facilitators of toilet usage in rural India. Prasad is also an expert working group set up by USAID-GAIN to develop behavior change framework in the nutrition domain. He has delivered guest lectures at leading academic institutions including London School of Economics, University College London, and Warwick Business School.
- **Sumeet Patil, CEO and Research Director, NEERMAN.** Sumeet Patil heads NEERMAN, a not-for-profit organization specializing in evaluation research and consulting in water-sanitation-hygiene (WASH), public health, environment, and energy sectors. Previously, he worked as senior policy analyst in the public health and economics division of the Research Triangle Institute. He also served as a short-term consultant with the World Bank to lead their impact evaluation of Total Sanitation Campaign in Himachal Pradesh and Madhya Pradesh. His research is published in PLoS Medicine, American Journal of Tropical Medicine and Hygiene, Bulletin of World Health Organization, Journal of Water and Health, Social Science & Medicine, Risk Analysis, and several other international journals. He holds a master of science degree in water resource and environmental engineering and master of economics degree in environmental economics, both from North Carolina State University, Raleigh. He is currently a PhD candidate in the School of Public Health at the UC Berkeley.

- **Ravi Bhatnagar** Manager, External Affairs, Reckitt Benckiser Group.

Moderator:

- **Priya Naik, Founder and Joint Managing Director, Samhita Social Ventures.** Priya Naik's interest in social entrepreneurship began when she worked as a researcher at the Poverty Action Lab at the Massachusetts Institute of Technology (MIT). At MIT, Naik was part of two student-led start-ups: Aerovax, a company that created safe, inhalable aerosol vaccines that could be delivered without the use of needles; and Kalpataru, a company that delivered innovative, low-cost technology to increase the efficiency of microfinance institutions. Priya has a master's in economics from Yale University, a master's in public policy from the University of Michigan, Ann Arbor, and a master's in commerce from Mumbai University.

Introductions:

- **K.K. Kishore Kumar:**
 - Chief engineer.
 - Looking at rural sector for Andhra government.
 - 90 rural lakh population in total—only 30 lakh have toilets, but in reality only 30% have functional toilets.
 - Extra 3000 from the state.
 - Main task is the utilization of the toilets.
 - Going for IPC rather than IEC – going for internal personal communication.
 - Involving elected representatives in the process.
 - The main barrier is the psychological problem: households will construct bedrooms and so forth but not toilets; they think that it is the government's responsibility to construct toilets.
 - AP has a strong network of self-help groups – SHGs have been central to community mobilization strategy.
- **Dean Spears:**
 - Research focus on early life and human capital development.
 - Focus on child health and life outcomes.
 - Quantitative field study in five studies and qualitative study on why people do not use latrines they have.
 - When they ask people, they find that people's conceptions of purity and cleanliness, pollution, and ideas from the caste system play a role; these are problems that exist only in rural India—these are issues that we need to talk about.
 - Something that surprised Dean: back when the new government launched Swachh Bharat – it is in practice a latrine construction program; this is no different than other programs that came in the past. Hopes to see new programs that build on behavioral insights.
- **Sharon Barnhardt:**
 - Urban sanitation experiments from JPAL focused on open defecation and how to reduce it in urban areas.
 - Many components to the study.
 - Hardware – user center design.
 - Demand generation and behavior generation – getting people to toilets.
 - Especially true for women who practice open defecation.
 - *Experiment 1:* Focusing on business models: focusing on operations and maintenance to ensure the toilets are functional; testing private management versus community management.

- *Experiment 2*: on habit formation: how do you set off a trigger that leads to a different action, and with repetition, that becomes a habit that drives behavior?
 - No concrete findings, the work is ongoing in the field – designing new triggers and rewards for behavior change.
- *Experiment 3*: CLTS: behavior change and generating demand.
 - Might not work as well in urban areas, as they have worked in rural areas
 - Is there an urban version of CLTS?
- **Mala S:**
 - 3 – 4 years back Arghyam saw that there were tremendous professional profits but not in development; soft spend on sanitation was not being spent; government was short of ideas on how to address sanitation.
 - The problem they tried to solve: taking professional skills and imbed them into the government. Worked in Karnataka – managed to prove 3x on their efforts.
 - What did they learn about infusing professional communication in a government program?
 - Women wanted toilets but men were going to decide when toilets would be constructed.
 - Men were looking at toilet construction as asset accumulation – he builds biggest pit etc, looking at it as a capital asset.
 - There is possibly a tipping point, when you get to 60% that have toilets, then you see that there's a nudge to 85% or more. The challenge is from 10% to 50%.
 - Using technology – using radio frequency chips how often toilets are used; looking at how often soap is used.
 - Exploring how gender inclusivity can be included in an index that measures sanitation impact.
 - Bringing learning of marketing team into social development team.
 - Calls for partnerships through which we can study and examine models.
- **Ram Prasad:**
 - Final Mile Consulting: applying behavioral economics principles to consulting problems.
 - For the last two years have been working on a project funded by Arghyam on why people have not used toilets once they have been constructed.
 - Insights:
 - All homes look different but all toilets look the same.
 - BCC was largely noise.
 - Why we don't see a lot of talk on usage about it is not very tangible.
 - Field experiments, testing in a sequential way – they saw that there was little sympathy in how toilets are designed.
 - How much communication exists on shame. In front of an external researcher, they communicate shame; but within the group, there is no shame about OD.
 - Many companies build toilets and put their logo on them; the toilets are no longer owned by the individual or household.
 - A lot of rural communities took steps to mask the smell of toilets.
- **Sumeet Patil:**
 - What's surprising: how much advocacy is done on thin evidence, through anecdotal evidence.
 - What they have found from pooling data from four RTCs in four countries:
 - The subsidy is an important piece.
 - How many people use toilets depends on the intensity of nudge.
 - The challenge is to reduce individual behavior, but if there is to be a dramatic change – we have to also encourage community behavior change.
 - Behavior change is also a supply problem; what motivations are you giving to suppliers such that they can deliver products that meet user needs?

- **Ravi Bhatnagar:**
 - Work on four pillars.
 - Behavior change communication – 80% investment.
 - Infra and maintenance.
 - Product.
 - Mass research.
 - They did design thinking – use EMLE framework.
 - What will be the outcome and impact? Testing various theories of change.

Panel Discussion:

- **Kishore Kumar:**
 - Question posed: What are the challenges?
 - Behavior change must come first, construction of toilet, the test is that communities will use the toilets.
 - Jarkand example: there was no subsidy, after construction, then the government disbursed money to the gram panchayat.
- **Dean Spears:**
 - Question posed: We don't know about behavior change, how can we talk about scale?
 - What we need to do:
 - Reflect on the evidence we already have: comparisons within India, even in culturally different areas within and between states.
 - Experimenting with solutions: what happens when demonstrations are done before? A whole set of experiments that can use the evidence and data.
 - Once we see these ideas, then we think about scale. In the meanwhile, the government should be talking about purity and pollution in the public domain; the gap is what we need tackle.
- **Sharon Barnhardt:**
 - Question posed: Is there a difference between the urban and rural sanitation problem, and if we recognize these can we take models to scale?
 - There's little we know about the urban problem.
 - CSR funders need to invest in research - you will help figure out the solution to a hard problem.
 - As a system we need to figure out what the system is to get CSR funders to invest in this type of work; it is harder to associate yourself with research? We need to think about incentives for funders to support research; we need R&D to encourage these pilots.
 - In rural areas, you are looking at bathrooms for households.
 - In urban areas, you are looking at constructing toilets in dense environments, that are multicaste, multi-religious - have to look at issues of collective participation, free rider problems, and so forth.
- **Ravi Bhatnagar:**
 - Question posed: how does a company like RB work on this issue?
 - Rural vs. urban.
 - Rural areas – your families are extended families; different stratification.
 - Urban areas – In slums you see differences in local dialects, immigrant workers.
 - RB is trying to assess social norms, triggers, rewards – they will be designing modules.

- They are working on school hand washing program.
- One thing that has worked: creating an enabling partnership.
- How do you do this at scale? Partnerships? Need standardization in messages. One method, one technology is tested – if it is not working, then they are open to changing previous methods.
- **Arghyam**
 - Three posits to their work:
 - Increased saleability of what has worked.
 - First thing to do is to find marketability of what has worked.
 - Government needs a to-do kit; scale means government.
 - The person who scales it at the end is the swachh baru or the panchayat development officer. We really have to look at on the ground: how do we enable that last mile?
 - What is it the thing that we want to scale? Toilets? We measure toilets. But what we need to measure is usage, how do we measure usage?
- **Ravi Bhatnagar:**
 - Question posed: how do you build capacity at scale?
 - It's important that good processes reach the Panchayati raj office.
 - Can we plan such that we integrate our work with them from the start of their tenure?
 - Question posed: What is the one thing that can push the problem forward?
- **Arghym:**
 - Have to look at the state level. Who is the team, at various levels? What is the constitution of the project? Within the government system, can you monitor and evaluate program?
- **Kishore Kumar**
 - If you make the Gram Sarpanch well resourced.
- **Dean**
 - Need a representative survey sample: how many people are using latrine?
 - If aren't measuring latrine use...
 - JPAL.
 - Designing service blocks that people want to use – toilets, washing, and so forth.
- **Arghym:**
 - Need to look for disruptive interventions to do this; need to reach the target.
 - Technology can be a potential disruptive force.
- **Ravi Bhatnagar:**
 - Product shaping and marketing.
 - Final Mile:
 - On scale: must be at state level.
 - How do we personalize investment? People need to put skin in the game – in Karnataka there are cases where the expectation is that government build and clean toilets.
 - NEERMAN.
 - Need not be individual toilets; could be community toilets.
 - India has to think about this.
 - Stop Swachh Bharat where it is, otherwise you will scale up the failure.

Leveraging Technology Panel

Participants:

- **Mangesh R. Gupte, Director and Head, Corporate Social Responsibility, Dr. Reddy's Laboratories.** Mangesh Gupte has over 22 years of experience in the areas of water sustainability, social development projects, and CSR in various capacities in organizations. Gupte has also served on the steering committee of the UN Water Mandate, and has represented industry with several ministries for enhancement of corporate social responsibility. He has a bachelor's degree in civil engineering from the University of Pune and a master's from the Indian Institute of Technology, Powai, Mumbai in environmental science and engineering. He received the prestigious Commonwealth Scholarship - UK for pursuing research in India's water sector.
- **Upneet Singh, Water and Sanitation Specialist with the Water Practice of the World Bank.** Upneet is a Water and Sanitation Specialist with the Water Practice of the World Bank, focusing on rural sanitation at the national level and in selected states. Upneet has a particular interest in community-led approaches and working with local governments to scale up sector reforms. Upneet was educated at St. Stephen's College and has Master's degrees from IDS, Sussex, and Oxford.
- **Pratima Joshi, Trustee and Cofounder, Shelter Associates.** Pratima Joshi is an architect and one of the founding members of the NGO Shelter Associates (SA) where she has been working since its inception in 1993. Within Shelter, Joshi has worked extensively to coordinate various programs, ranging from the implementation of housing and sanitation projects to poverty mapping and related research projects. In October 2005, the British Broadcasting Company (BBC) identified her as one of the leading slum architects of India. In 2006, she was the recipient of the global Ashoka Fellowship in recognition of her work as a social entrepreneur. In 2013, SA was named as a top ten NGO of India under the Google Impact challenge and received an award to carry out a citywide sanitation project in the city of Sangli.
- **Vaidyanathan Krishnamurthy, Head, Innovation and Implementation, Samhita Social Ventures.** Vaidyanathan Krishnamurthy has over 30 years of experience in the field of corporate social responsibility and social development. He has worked with a wide range of organizations such as Sight Savers, Save the Children DANIDA, and USAID designing and executing bespoke CSR projects. His interests primarily revolve around sectors such as health, drinking water, sanitation hospital management, disaster management, and disability. Over the years, he has worked closely with the government of India and played a significant role in setting up district level societies. He holds a post-graduate degree in economics and a master's degree of philosophy in population science.
- **Madhu Krishna, India Consultant, Gates Foundation.** Madhu Krishna has worked with the Gates Foundation team for over 14 years as an India consultant across a range of programs. She provides support to the foundation teams with her deep experience on policy and advocacy issues. She worked as a core team member on the Reinvent the Toilet Fair hosted by the foundation in March 2014 in New Delhi, bringing together a range of development and government ministry partners to see and discuss options for non-networked sanitation and innovations, funded under the Reinvent the Toilet Challenge. Other clients that she has worked for in the areas of maternal and child health, family planning, and strategy formulation include FHI, Digital Green, Landesa, PATH, and Intrah Health.

Moderator:

- **Manas Rath, Independent Consultant.** Manas Rath works closely with social enterprises in sanitation, leadership development, and healthcare. He also helps philanthropists/CSR and impact investors to maximize the impact of their philanthropic capital. He is engaged in bringing more high quality talent

into the social sector, and conducts workshops for leaders of non-profit organizations. Most recently, Rath was director of the Social-Impact Leadership Program and fundraising at Dasra. Rath has degrees in mechanical engineering and business management from the Massachusetts Institute of Technology (MIT) and MIT Sloan School of Management, and did research with the MIT-Sloan System Dynamics Group.

Discussion:

- **Opening Remarks (Manas Rath)**
 - There is a great deal of interest in technology, but it has to go in hand with behavior change and infrastructure (which works). We also need to understand gaps, weather circumstances, etc.
- **Questions for the panelists:**
 - Where are the gaps and where are the research efforts that are needed?
 - How does technology promote efficiency? Effectiveness? Scale? Sustainability?
- **Mangesh R. Gupte:**
 - We need to identify the water resource conditions of a given area.
 - India water tool: let us assess water sources available in an area; where is the water less?
 - Where interventions are possible, data helps inform intervention.
 - People do not talk about hydro-geological conditions. For interventions such as rain water harvesting, there is a need to use technologies of this kind to make informed decisions about interventions.
 - When it comes to recycling or re-using water, what is the pathogenic content that can be done in a laboratory?
- **Rath:**
 - Water availability is a key driver of behavior change.
- **Gupte:**
 - Yes, there's an evident need to be attentive to the physical infrastructure for water.
- **Upneet Singh:**
 - What are the technological challenges in the World Bank's work?
 - The challenges are not around technology because technology is an enabler.
 - The Bank is working with the center, state, and district governments on Swachh Bharat.
 - Monitoring systems are still measuring just toilets, a logical outcome of what you are asking for. If you ask for toilets, that's what you'll look for and that's what you'll get.
 - The problem is with institutions.
 - There is now an emphasis that this program is about dignity and so forth, but the monitoring systems need to reflect that.
 - WB has an online MIS but focus on toilets.
 - WB has surveys but the survey data is out dated.
 - Third source: clean village prize; only an annual exercise, only those villages that applied.
 - Huge potential for ITC to help bridge the gap between output and outcome.
 - ICT can have a role in monitoring outcomes: mobile monitoring system, in 25 states, 2600 gram panchayats.
 - The bottom line is that the WB got geo-tagged information, and the monitoring system was effective—worked at scale.
 - There is a need for an annual outcome survey. In addition, there needs to be a demand assessment on OD status.
- **Pratima Joshi:**
 - Her work facilitates housing for the urban poor.

- Currently working in three districts of Maharashtra.
 - Biggest stumbling block was lack of data: largely generalized view of the problem on the ground.
 - Cities are taken-a-back when they look at city-level data.
 - Extremely low investments are being made to deliver services.
 - Their methodology:
 - Data and GIS Maps at city and slum household-level.
 - Understand realities and constraints.
 - Transparency—focus on neediest.
 - Make achievable, city-wide plans.
 - Stakeholder engagement—municipal and communities.
 - Design and implement intervention.
 - In pimpri chinchwad:
 - 1 toilet to 70 individuals.
 - Requires 44 to invest, such that every household has a bathroom.
 - Community toilets are poorly maintained.
- **Rathe:**
 - After five years, if someone wants to verify if these toilets are working and being used, these maps allow for verification and assessment.
- **Madhu Krishna:**
 - What kinds of technologies are needed on the health front?
 - Gates looking at sanitation along the value chain.
 - Look at sanitation along the service chain: containment, emptying, transformation, transfer, and elimination.
 - When you do diagnostics looking at where fecal sludge goes, getting people into toilets is not the problem.
 - If we wait for households to get pipes and sewer systems, the huge innovation that needs to be made is in non-network systems. This is not a regression; this is a solution to the given constraints of the problem: population fragmented.
 - When you have big, dense communities, the problems are acute.
 - Increased focus on:
 - Non-sewered solutions;
 - Evidence-based behavior change;
 - Value chain approach to sanitation;
 - Tech development.
- **Vaidyanathan Krishnamurthy:**
 - Over a period of time, are we leveraging technology to demystify more of the process?
 - On sanitation:
 - In Samhita, looking at the life cycle, delivery, and so forth.
 - Addressing not only project needs, but also sector-specific needs.
 - What kind of technology can be used?
 - Looking at application-based model, which will be able to leverage grass-roots-level people.
 - Each module will be need to specify.
- **Manas' Summary of the Panel:**
 - Talked about data and maps in planning right interventions: how can data be kept updated, shared, and kept accurate?
 - Need people to take responsibility of data.
 - Commercializing technology – scientific support.

- Last question: where does technology play in scale?
- **Gupte:**
 - There is a behavior change around technology. If it doesn't work, it is attributed to the community. Usability may be different. Whose behavior? Is it the bureaucracy around the technology?
 - It is also a question of solution providers. There is a behavioral side to technology, to ensure that technology is adopted.

Integrating Design in WASH Projects Panel

Participants:

- **Swapnil Chaturvedi, Founder, Samagra**
- **Anagha Mahajani, General Manager and Head, Program Research and Monitoring, Ambuja Cement Foundation**
- **Shubhra Mittal, Policy and Training Manager, J-PAL South Asia at IFMR**
- **M. Subbaraman, Director, SCOPE Moderator - Ayush Chauhan, Cofounder, Quicksand Design**

Moderator:

- **Ayush Chauhan, Cofounder, Quicksand Design**

Introductions:

- **Chauhan:**
 - Set of issues range from behavior change to cost effective solutions, to public and private sector capacities. What sustainable business models are there? Design cuts across infrastructure and architecture. What is the capacity to think of keeping the users at the center? How do you build that capacity in the sector?
- **Chaturvedi:**
 - Community toilets and retrofitting simple common sense designs.
- **Mahajani:**
 - Working with communities to customize design in rural sectors. Perils of standardized design.
- **Mittal:**
 - Policy design, and simple policy measures can influence behavior change.
- **Subbaraman:**
 - Gender and age; how can you design for this? These are the lead uses for it.

Question: What does 'design' mean? + Share an anecdote where in design was compromised in their experience and the reasons for this.

- **Chaturvedi:**
 - Community toilets in a slum, where does a woman with a periods change? Periods are such a private nature, that waste will be thrown in side—understood through user journey.
- **Chauhan:**
 - How do you move from component of design to where the intervention is needed?
- **Mahajani:**
 - Never static. Lot with hardware and software. Tweaking of design, innovation at micro-level. Building places with local material. Focus is on usage rather than design. Women’s federation is involved in a loading fund.
- **Chauhan:**
 - How do you work with people or empower them? How do you help them come up with these solutions?
- **Mahajani;**
 - Implementing organization, don’t outsource to other people. Take responsibility of being with people. Long journey that helps and create rapport for a long term. Doing things together. Responsibility is with village authorities.
- **Mittal:**
 - JPAL network of over 100 affiliates, dev. economists randomized control trials. Adoption is really low, seen in other sectors where good technology adoption is low. Understanding though designing studies through incentives, or nudges, that can help identify how can you increase adoption? Or household or individual level? Is there a critical barrier in which social norms begin to play? Price is a barrier for low-income. Way decision making is linked-if I have a voucher, more likely to invest if 50% of neighbors has voucher.
- **Chauhan:**
 - Design not just for immediate needs of individual, but others as well, with outside perceptions of community.
- **Subbaraman:**
 - Focus on rural areas. Created 25 models, cost effective-how do you motivate behavior? Toilet is an end to end process, from transportation of facilities to reuse of waste management. Technical work in sanitation—to influence most critical stakeholder.

Question: What are the critical barriers that inhibit the integration or adoption of your design in rural and urban context?

- **Swapnil:**
 - When we start this work, municipalities not convinced until they see it. Once toilets designed, didn’t do operational maintenance or user experiences into account. Elder or differently abled is never taken into account.
- **Chauhan:**
 - Lack of precedence. How do you see the end of a life cycle?
- **Mahajani:**
 - People have their own experiences. Access to design is a big barrier. Making people aware of information is important. Cost is a barrier, but the triggers-connecting not just for sanitation, but in a holistic way.
- **Mittal:**

- Not enough having good technology, or how individual decision-making is, or preference, or engrained habit people have. Not enough to see barriers we find.
- **Subbaraman:**
 - Designing capacity building or policy maker, implementers and users, in three stages, it's needed. Girl friendly toilet is important.

Question & Answer with Audience:

- Subsidy is important. Can you give further explanation of study in Bangladesh?
 - **Mittal:**
 - Clts latrine program, randomized subsidy vouchers, supply arm to households.
 - Subsidies work above and beyond behavior change?
 - Behavior change show no impact in study, no impact. Subsidy with behavior change did show impact.

Section 2: Voices from the Ground

Right to Pee Program, CORO

Participants:

- Sujata Khandekar
- Supriya Sonar

Describe the NGO's work in brief:

- Focused on grassroots progress, core mandate for last 25 years. Development of grassroots leadership process that are underway. Before Right to Pee, development management level for pay and use for Dept. of Science and Technology. On each toilet block, 10-13 people employed in immediate communities. Help register local cooperatives. Led by communities—in process of building this model, frequent participation of users. Sanitation is connected to gender. Not about numbers, but who is speaking, whose voices are heard, who is leading? How notions around gender relate to the issues are being challenged and challenged. 860 grass roots leaders and 200 organizations. Where people in geographies come together to do higher-level advocacy.

What are the unique features of your campaign/ program?

- Participatory process: how we look forward? Right to pee has had a gender budget 75 lakhs, 1 lakh, 5.25 crore for the past 3 respective years for construction of toilets for women, with free urinal facilities. Mumbai is divided into 24 wards, not an easy task for urban areas. Successful in collaborating in areas. Together have developed policies, formulation of policy: how does toilet exist? How are they can be monitored? Further plan for implementation? That's how policy is being developed. RTP space in Maharashtra women's policy. Special part in women's policy. Location is a bigger issue. 96 locations for construction of toilets in Mumbai. Not just monitoring or review, also collaboration to design gender-friendly toilets: men, children, women, disabled, everyone will feel safe to use it. Who is responding to these issues? In this case, it's the BMC that is responding. Confrontation and collaboration has been useful for both. Collaborated to design and review—the whole process with the authorities. Collaboration and confrontation co-exist. As we look forward, important to see views for all stakeholders, and knowledge that is built up—want global dissemination for this. In collaboration, need to know what to do, and what we should let go.

Gram Vikas

Participants:

- **Sojan K. Thomas, Program Manager, Water and Sanitation, Gram Vikas.** Sojan K. Thomas is program manager, water and sanitation, at Gram Vikas, an NGO predominantly working in rural Orissa with the tribal and marginalized sections of society for the last 37 years. Gram Vikas works with these communities in the sectors of health, education, water and sanitation, energy, and land and water development. Thomas has worked as the program manager of the water and sanitation program since

its inception in 1992. The fundamentals of Gram Vikas' approach are 100 percent participation from all villagers, with clearly defined stakes and mechanisms for institutional and financial sustainability.

Describe the NGO's work in brief:

- Working in Orissa.
- Working in water and sanitation.
- 80% of morbidity due to water pollution – one of the main reasons of polluted water is entrance of human feces.
- Water collection is the task of women and young women.

What are the unique features of your campaign/ program?

- Water and sanitation program is a total entry program.
- MANTRA program.
- Integrated approach to habitat development.
- Focal areas:
 - People's institutions.
 - Enable infrastructure.
 - Health.
 - Livelihood and food security.
 - Education.
- Equal representation of all classes and castes living in that particular village.
- Using water and sanitation issues as a social inclusion; anchored with local institutional arrangements.
- Each household decides how much it can pay.
- Each household puts Rs. 1000 in a bank.
- Core values:
 - Inclusion
 - Cost sharing
 - Social equity
 - Gender equity
 - Sustainability

Share one transformative story:

- Once a program is launched, there is a self-perpetuating process in place through a corpus fund. Their work supports that people can and will pay for quality but there are social costs.
- Not just toilet also bathing room.
- Three taps: toilet, bathing room, and kitchen.
- Using elevated water towers.

Swades Foundation: Rural Empowerment

Participants:

- Praveen Aggarwal

Describe the NGO's work in brief:

- Change how NGO sector is perceived in the world. Myths and right observations that NGOs don't have scale or are adverse to technology. Corporates are wary of investing their money in the NGO sector.

What are the unique features of your campaign/ program?

- Grassroots operating level, sustainable development that can be replicated at scale.
- Mission: change lives of 1 million people in rural India in the next 5 years.
- Community-based institution, inside-out, 360 model of development across 5 verticals, community mobilization, water and sanitation, health and nutrition, and so forth.
- 360 development model and inside-out model, education, health and sanitation, community mobilization, and livelihoods.
- Toilet should be in every home: 110000 toilets in homes, ensure every house has an Indian toilet.
- Building 40,000 toilets in rural India.
- Scale and technology: commitment to build 25,000 toilets. Where is the skilled labor? Where is the technology?
- To reach scale, can we reach goal for India? Emphasize about research and evaluation, and everything.

Leaf Society

Participants:

- S. L. Sathiya Nesan

Describe the NGO's work in brief:

- Sanitation: create open defecation free families, and successful hygiene. Uses kids as change agent.
- Make sure tank is cleaned every four years.
- Using children as a change agent and focusing on women.
- Focusing on multimedia use.
- Hygiene is a sign of health, one part of hygiene. Toilets are a part of sanitation.
- Snakes and ladder health game.
- Trying to register messages on the unconscious brain.

Section 3: Summary & Wrap-Up

Krishnan Neelakantan, Joint Managing Director, Samhita Social Ventures

Summary

Event was rich in content with points highlighting all the macro and micro issues around the larger goal of making India OD free, rather than must building toilets. Not even going to pretend I'm covering the most important points, but I thought I'll highlight eight key points that appealed to me from the discussions through the day.

Eight key points

1. **Nudge** - scale of problem in India may make it look more like a shove, but it is not just one massive problem of changing the behaviour of an intractable 'user' (non-user), but nudging different stakeholders (policy makers, funders, researchers) at different ways.
2. **Will we build?** Mixed bag. Falling behind targets, subsidy may not be enough to build (or build quality stuff). But examples of strong project mgt from India's largest companies - with holistic solutions that are addressing the issue of usability. And professional NGOs like Swades who cannot wait! Issues of good quality professionals, which the larger stakeholders in the system will need go address
3. **Partnerships key**. May sound like common sense, but critical because each stakeholder bringing in specific skills/expertise and success is about leveraging the right strengths for each and starting engagement at an early stage. And of course, the community (children) need to be closely engaged.
4. **Improve marketability of what has been done well and what we've learnt**. Live session with Sarpanch of Gomla
5. **Look at entire service chain**. Neglect sewerage system, solid waste mgt else public health outcomes will not be achieved! Need for specialists to look at at these elements and address
6. **Data and technology can be significant enablers**. Data and mapping that facilitates action is wanting, and there is a need for micro research and experiments around various elements
7. **Get the monitoring objectives right**. If you monitoring only construction, that's what you'll get. Technology can play a significant role in bridging this gap of measuring outcomes, rather than outcomes.
8. Pay attention to **design** - Not just about product, but about capacity to deliver and should include policy makers, financiers and the software (including maintenance)