Confederation of Indian Industry

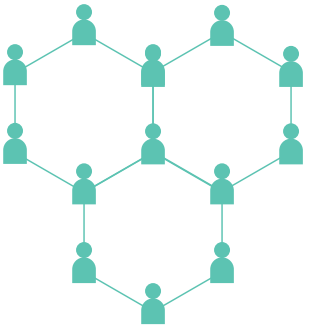
CII FOUNDATION

Mission Sanitation *of* Schools (SoS)

The Hon'ble Prime Minister in his Independence Day speech on 15 August 2014 espoused the need of clean India. He called for Swachh Bharat, a massive mass movement, that seeks to engage everyone in the task of cleaning homes, work places, villages, cities and surroundings in a collective quest. He especially called upon the corporate sector to give priority to the provision of toilets in schools as part of their corporate social responsibility.

In response, CII has launched the Mission: Sanitation of Schools (SoS) to work with companies on construction and maintenance of toilets, in alignment of the overall vision of the national goal of **Swachh Bharat – Swachh Vidyalaya campaign**.

Facilitating implementation of Swachh Vidyalaya – Mission SoS



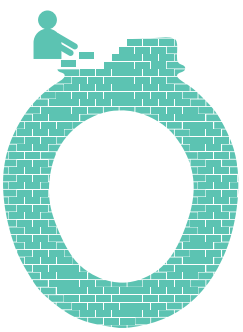
- Assisting industry members to undertake construction on their own:
  - Facilitating identification of geographies in consultation with the Government
  - Developing a bank of implementing partners / agencies for industry to tie up with for construction
  - Share existing models for further adoption
- Engaging industry members through CII Foundation

EOI
Expression of Interest to CII Foundation

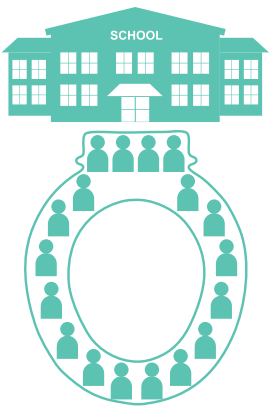
SELECTION
Mutually decide on the location & the schools for executing Mission SoS (discussion with companies & government officials)

NEED ASSESMENT
Conduct need assesment of the identified schools and identify a suitable technology and behaviour change model

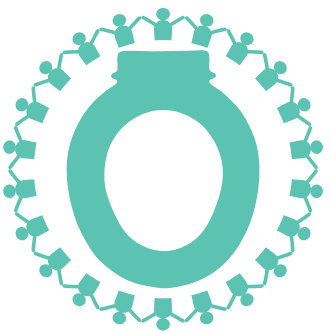
PARTNERSHIP
Identify Partners (NGOs, Vendors) to implement the identified model



Construction of Toilets



Setting up of Sanitation Committees in schools

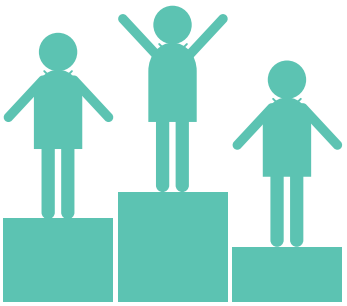


Sanitation Awareness Drive

Periodic Monitoring, Impact Assessment & Reporting to Donors in the desired format

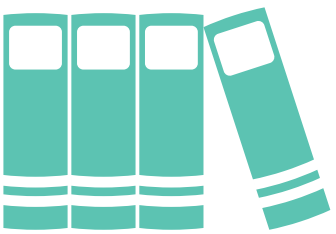
Recognition

- Consolidation of member companies' efforts toward the Swachh Bharat Mission.
- Recognizing proactive member companies for their contribution towards the mission through various platforms and publications.



Knowledge Management & Dissemination

- Identifying innovations and good practices in the sanitation domain;
- Documentation and dissemination for adoption by others:
  - Innovations in Technology, Design, and Behaviour Change practices;
  - Case studies of industry initiatives towards the Swachh Vidyalaya mission;
  - Evaluation of designs and technologies.



Who can Partner

For contribution & support

- Companies
- Foundations
- Multilateral agencies

For on ground implementation

- NGOs/ expert agencies
- Construction Contractors

To partner with CII Mission SoS, please contact:
CEO, CII Foundation
Email id: ceo-ciifoundation@cii.in
Contact No.: 0124-4104065 (B), 4309448 (D)

Facts on Sanitation

- According to the latest estimates of the WHO/UNICEF, 36% of the world's population–2.5 billion people– lack improved sanitation facilities.
- As per recent UN statistics, half of India's population does not have access to toilets.
- Studies suggest, inadequate sanitation condition causes **India economic losses** equivalent to 6.4% **of its national GDP**, which amounted to ₹ 2,500 billion in 2006. – (*The Economic Impacts of Inadequate Sanitation in India,* Water and Sanitation Program (WSP), a global partnership administered by the World Bank, launched in 2007).
- **The ROI** (return on investment) in Sanitation sector is higher as compared to other sectors *(UN Water, 2008 & Water Supply & Sanitation Collaborative Council).*
  - For every US Dollar invested in **Infrastructure** the ROI is 6 **Dollar.**
  - For every US Dollar invested in **Health and Education** the ROI is 5 **Dollar.**
  - For every US Dollar invested in **Environment** the ROI is 5 **Dollar.**
  - For every US Dollar invested in **Sanitation** the ROI is 7 **Dollar.**
- As per Government estimates, out of total 10.94 lakh Government schools there are 1.01 lakh government schools without girls' toilets; 1.52 lakh schools without boys' toilet and a total of 1.64 lakh schools with dysfunctional toilets. (Swachh Bharat: Swachh Vidyalaya brochure, Department of School Education and Literacy, Ministry of Human Resource Development, Government of India).

About CII Foundation

The CII Foundation was set up by CII in 2011 to undertake a wide range of developmental and charitable activities and initiatives pan India by enabling Industry for infusing inclusive development.

CII Foundation works towards inclusive development by providing a meaningful bridge between marginalised communities and donors, specially corporates by providing strategic guidance on CSR and developing and managing high impact programmes.

The focus areas of the Foundation include: Gender Equality and Women Empowerment & Safety; Education; Skilling, Employment and Livelihoods; Environment Sustainability, including water; Public Health & Sanitation; Disaster Management.

In this effort, the Foundation works together with corporates, governments, communities, and civil society institutions to channelise their collective resources towards social and community development.

Over the last three years, the CII Foundation has undertaken various projects with corporate sector support in the areas of skill development, child development and maternal health, water conservation, disaster relief and rehabilitation etc.

Models for Waste Disposal System for Toilet

Sl NO.	Type of Technology	Important Features	Duration for construction of toilets in a school *(As per the norms suggested by the MHRD)	Requirement of Land (in Sq Mt.)	Suitable for soil condition (Soil Type/ Water-table)	Ease of O & M (Easy/ Difficult/Needs training)	Meeting Hygiene	Other dependancies	Approx Cost for one unit : GOI desired norms- one unit each for 40 boys and 40 girls: one unit generally having one toilet (WC)plus 4 urinals (Includes the cost of sub structure only. Does not include of the cost of super structure)	Remarks
1	**Single pit Toilet**	•Single holding and leaching pit. •Require large sized and deep pits. •Needs cleaning, else just abandoned once filled .	5 days	•Moderate, but should be reasonably away from fresh ground water source	•High permeable soil •Not suitable for high water table areas	•No maintenance. •Once filled needs to be emptied or abandoned.	•Low on hygiene and prone to foul odour	•As pit gets filled up after 2 years, a new pit has to be constructed every 2 years	₹ 6000/- (Approx)	•No quality control and would require proper designing as per the geographies, else leads to contamination. •Not viable for schools
2	**Twin Pit Toilet**	•Pits are used alternately allowing time for the sludge to dry/ decompose, which is then either used as manure or safely disposed	5 days approx	•Moderate, but should be reasonably away from fresh ground water source •2 sq meter for 100 students	•Soil with high permeability preferable, not very suitable for flood prone areas and with high water table. However, design can be modified as per geographical condition	Easy	•High	•Pits should be used singularly and alternately. •Should be away from ground water source to minimize fresh water contamination	₹ 15.000/- (Approx)	•To be adopted if soil conditions are favorable. •Design should include twin pit and one soak pit (for grey water -handwashing water). •Should be contructed away from the water sources.
3	**Septic Tank toilet**	•Primarily a holding/ sedimentation tank to accumulate sludge/scum which gets partially digested, which needs to be periodically removed.	10 days	•8 sq meter for 100 students and additional space for soak pit of 2.5 sq mt.	•Suitabel for all, except in flood prone area and high water table area	•Difficult ,expensive, not environment friendly (Should be airtight. The sludge needs to be emptied out in case of grey overflow from the tank)	•Low - the disposal of the overflow is crucial. If watery then its ok to dispose it in soakpit. Otherwise, it could contaminate the surroundings	•Needs the disposal of the overflow which might contain some sludge material also	₹ 30,000/- (Approx) (cost of tank and soakpit)	•Half way disposal as the sludge needs to be emptied out, dryied further for disposal and at the same time the overflow also needs further disposed in soakpits. •appropiate for only urban and not for rural areas. • Cistern system should not be encouraged •not appropriate for rural schools. •should look for better advanced technology for disposal.
4	**Eco-san Toilet**	•Separate pits for urine/ cleaning water and feacal material as dry feacas gets decomposed faster.	5 days	•Moderate, 2 sq meter	•Almost for all conditions of soil and water table	•Very difficult to operate and maintain. Needs orientation	•If not used properly could become unhygienic	•Care should be taken that any liquid does not get mixed with solids •Need ash or saw dust for covering the faecal material	₹ 15000/- (Approx)	•Not suitable for schools, however, can be seen as an option for areas having very high water tables(coastal areas).
5	**Bio-digester - Aerobic**	•Unique globally patented Multi Strain Aerobic Bacteria Culture converting human waste into neutral water & Bio gas •Digests wastes completely in 24 hours and the microbes use the trapped air for decomposition. •Practically nothing is left expect for gases •The technology can be retro-fitted to existing super structures also	•5 days for sub structure built in concurrence with the super structure -. •Few Hours for prefab bio digester tank	•Moderate - only 4ft by 4ft bio digester tank per pan and a soak pit 1.1 sq mt. •1.44 sq meter per pan	•Anywhere in all types of soil	•Easy •Acid and High detergent based material to be avoided •Foreign objects like plastic, sanitary napkin,cloth to be avoided •Cleaners to be oriented accordingly •Approx need recharge once every 2 months for schools with 100 students •Odour is the first indicator for recharge •needs orientation	•High	•it needs to be used without break, however bacteria can be recharged after breaks. •Supply of bacteria only through Stone India Ltd. SIL to provide recharges for 5 yrs. Post 5 yrs, available on payment of ₹1000 per year per seat. •Not applicable in sub zero temp •Periodical supervision required	₹ 30,000/- (Approx) for two pans (two tanks) for 100 students	•Approriate for schools. The maintenance and recharging bacteria are to be sourced by the patented company only. So a life long dependency is created in such patented technology.
6	**Bio-digester - Anaerobic**	•Uses DRDO technology (anaerobic Bacteria) for converting human waste into neutral water & Bio gas •Requires a digester pit, no manual scavenging, least turbidity & coliform. Biochemical oxygen demand (BOD) low.	5 days	2 sq mtr	All types	•Easy limited usage of Acid, Detergent. Foreign objects like plastic, sanitary napkin,cloth to be avoided needs orientation	•High	•Bacteria needs to be charged only once. Recharge is required only after continuous non-usage of 5 months •Supply of bacteria available from DRDO and Enable Recharge to cost ₹ 1000/- •Not applicable in temp above 50 degree celsius •Periodical supervision required	₹ 45,000/- (Approx)	•Appropriate for schools . •Minimal Bio gas/methane emitted, discharge of gases built into the design
7	**Waterless Urinals**	•A Mechanical solution for boys urinals only .	3 days	2 sq ft (soak pit)	All types	•Easy	•High	•No Chewing gum to be put in the pan	₹ 5000/- (Approx) per urinal	•Saves 1.5 lac litres water per urinal pan every year

Note:
*It is estimated that the average no of students per school is approx 85 – 100.
*The minimum requirement as per GOI desired norms- one unit each for 40 boys (1 WC plus four urinals) and 40 girls (5 WC)
*Please contact CII foundation for details of agencies implementing the technology

For more information on schools, design, state officials & other details log on to:
Ministry Website: http://125.63.72.116:8085/swachhvidhyalaya/
Handbook on Swachh Bharat: Swachh Vidyalaya: http://mhrd.gov.in/sites/upload_files/mhrd/files/upload_document/Eng_Swachch%20Bharat%20Swachch%20Vidhalaya.pdf

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