

EASOL: TIGER STEPS TOWARDS SANITATION

• Background

Lack of adequate sanitation facilities and their sustainability has been a pressing challenge in rural India and urban slums.

Even today, around 70 percent of households in India don't have access to toilets, whether in rural areas or urban slums. Roughly 60 to 70 percent of the country's 1.2 billion people still defecate in the open and the consequences are bad for most and for women are huge.

These consequences range from polluted water entering into the ground and mixing with groundwater and thus polluting the drinking water sources. This has resulted in women and children dying from childbirth related infections, rise in water borne diseases. As the women cannot defecate in the daytime in open, they hold their stool for long which gives to various gastrointestinal diseases as also to the risk and reality of being attacked and raped in some parts of the country.

Triggering communities and generating demand, strengthened supply chain arrangements and sustainable use of toilets are the major challenges which are being addressed for Open Defecation Free India.

• Location, Date

Andhra Pradesh, Maharashtra and Jharkhand; 2016

• Areas

Rural and Urban slums.

• Stage/Scale

- The project is being carried out in areas where the extents of diseases borne from Open Defecation are higher. In rural and slums public toilets and residential toilets are being constructed and installed. The project is making its presence feel in areas of Maharashtra, Andhra Pradesh and Jharkhand only.
- The initiative is in its early phases. One individual needs 3-5 litres of water, thus this environmental aspect is not suitable to villages with water shortage.

• Objective of the assignment

- Installing vermi-filtration technology toilets will help recycling waste, including solid waste which is a major area of focus for our country
- By recycling and treating the human waste, these toilets will help reduce the spreading of diseases to a large extent.

• What was done

- The "Tiger Toilet Technology" is an onsite sanitation technology which works on principle of vermi-filtration. An ecosystem consisting of bio-media and specially cultivated earthworms works for safe and efficient decomposition of waste in pit latrines, allowing excreta to convert into Vermi-compost at a very rapid rate. Liquids

filter to the drainage layer beneath and then permeate into the soil or suitable drain. The tiger technology will be paired with suitable cast in situ or pre-fabricated Superstructures.

- The Tiger Toilet can be constructed/purchased as a complete solution comprising the Tiger Toilet superstructure and the Tiger Toilet biodigester which is a single pit with Tiger Toilet Vermifiltration Technology. Alternatively, only the Tiger Toilet Vermifiltration Technology can be purchased and installed in a pit.

• Impact

- More than 2500 schools and individual toilets are running successfully in various parts of India.
- School toilet has been built in Government school at Musunuru village, Krishna District, Andra Pradesh.
- Sonori village, Taluka Purander, Pune, Maharashtra are also benefited with its construction.
- Village Khamagaon Mavel, Haveli Taluka, Pune Maharashtra is seen constructing of public toilets.
- Village Somatana, Mavel Taluka, Pune, Maharashtra has seen the construction of 13 individual toilets.
- 100 toilets units are installed at village Bada Rakso, District Sahibaganj, Jharkhand.



• Challenges and Issues

- The key challenge in execution of this project is land access for constructing the toilet clusters.
- Making people understand the benefit of using brick mortar sanitation facilities proves to be a challenge.
- Another challenge is to make the complete use of toilet by using its vermi - compost.
- Making people understand about the eco friendly ways of cleaning the units and new technology presented itself as an issue.

• Innovation

- The Tiger Toilet technology won an award from 'Grand Challenges – Canada' for 'Bold ideas' that make an impact on public health; Endorsed by Ministry of Drinking Water & Sanitation, Govt. of India; Recommended by several local government bodies
- No need of handling sludge as faecal sludge is rapidly converted into vermi-compost
- Safer and easier emptying as vermi-compost is stable, soil-like material and can be readily removed
- No energy requirements as it is a passive Process
- Cheap to construct and run
- Compact with a smaller footprint than a septic tank or a twin pit latrine
- A self - regulating ecosystem that stabilizes and adapts gradually to effectively handle wide
- Fast and easy to install

- Good aesthetics
- Durable
- Adaptable to several site conditions
- Weather proof
- No need of acid to clean only wood ash is enough
- Aerobic system -leaves no odour, no accumulation of flies and mosquitos

• **Lessons learnt**

- In the world of modern technology nature and environmental methods to tackle the open defecation are also useful.
- The by products of De-composition are also useful in controlling of various other pollutants in the environment.

• **Financials**

This initial project research activity was funded by the Bill & Melinda Gates foundation. Later, the technology was developed and initiated with effective trials in India by PriMove Infrastructure Development Consultants Pvt Ltd and Bear Valley Ventures (BVV). Presently, the Technology is engineered and marketed by EaSol Pvt Ltd, Pune.

• **Economic sustainability/Revenue Model**

- The initiative is supported by various NGOs, international organisations and government bodies such as Rotary International, Lions Clubs International, World Vision, Swades Foundation, Unicef, The Art of Living, Ektir, Zila Parishad Pune, Iskcon & many more.
- The Tiger Toilet Technology is practically maintenance free and once commissioned the system works uninterrupted. However, recommendations for a visit every 3-4 months to monitor performance.



• **Implementer Contact Persons**

- info@easol.in, +91 9881933000; +91 20 25280200

• **Sources and References**

- <http://easol.in/tiger-toilet.html#>
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