

ELOO – THE BIODIGESTER TOILETS, BANKA BIOLOO

- **Background**

Banka Bioloo is a women's led business organization engaged in promoting and developing innovative environmental friendly products and services for Human Waste Management System. Banka BioLoo Pvt. Ltd. is a proprietary firm started by Namita Banka in 2008, which she incorporated in 2012.

A glance at the company's website paints a frightening picture of India's poor sanitation. Almost 50% of households even in big cities like Bangalore and Hyderabad do not have sewerage connection; Only 21% of waste water is treated, as compared to 57% in South Africa; In about 80% of the rural households, the average water supply is less than 5 hours a day and over 70% of the household do not have access to toilets or sewerage system; Out of 600,000 villages 350,000 open defecation takes place every day. India accounts for 58% of the world's population of open defecators.

Their main focus is to deal with the problem of open defecation that takes place every day. The technology helps in degrading Human waste in the most effective manner. This sanitation systems, is to be installed at places where conventional toilets facility cannot be made available. Banka BioLoo build/promote/manufacture and supply *ELOO – The Bio Digester toilets*.

The scope of the project is to provide on-site treatment for human waste using naturally inoculated bio-digester bacteria. In this regard, bio-toilets are provided where sanitation facilities are not available. On the same lines, for homes and institutions septic tanks or pit latrines are upgraded to bio-tanks/bioloos. To Railways, steel bio-tanks are provided to attach to the train bogie, beneath the "open" toilet. The target includes households, academic institutions, construction, infrastructure and plantation companies. That apart, a large focus is on rail passengers as well as families residing beside rail tracks, who face the menace of faecal matter lying on tracks – environmental as well as health hazard.

- **Location, Date**

Andhra Pradesh, Uttar Pradesh, Orissa, Maharashtra and West Bengal; 2012

- **Areas**

Rural

- **Stage/Scale**

Pilot project on the verge of becoming full scale

- **Objective of the assignment**

Provide sanitation solutions that obviate the need for external infrastructure for human waste treatment. The system should be sustainable, environmentally friendly and climate resilient.

- **What was done**

Banka BioLoo provides environmentally friendly and sustainable solutions for sanitation. Sanitation facilities in India are alarmingly poor with over 600 million people having no access to toilets. People are forced to defecate in the open. This practice poses health hazards, raises environmental concerns and leads to water contamination. They not only provide a toilet but also the “on-site” waste treatment facility. This ensures that the household is not dependent on external infrastructure for waste transportation and treatment.

Banka BioLoo specialises in human waste management. It uses Bio-digester technology, which decomposes human waste. The technology used for this is licensed by Defence Research & Development Organisation (DRDO). The Bio-toilet system developed by Banka BioLoo treats waste generated in toilets. The treatment occurs in the bio-tanks beneath the toilets.

The tank is fitted with bio-digesters, which decomposes 99% of waste in short time compared with conventional toilets. They also work towards converting tradition septic tanks into bio-tanks. It has proved to become a cost effective toilet and sanitation facility. It lessens environmental degeneration and it also creates better health conditions. The picture below shows BioLoo systems.



The company’s offerings include bio-toilets (or bio-loos) for families, public and community bio-toilets and bio-toilets for schools and institutions, bio-tanks for Indian Railways, bio-digesters (the bacterial culture) and bio-tanks, and upgrade of septic tanks to bio-tanks. The team also services bio-toilets, and has entered into annual maintenance and operations

contracts with different Railway zones. They have a bio-tank manufacturing plant and a bio-digester inoculation facility.

• Impact

- Environmentally friendly and climate adaptive bio-toilets nurture the ecosystem. They treat the faecal matter at source without any requirement of energy. In the process, pathogen-free water is released that is very good for gardening and similar purposes, as also biogas that could be utilized for cooking etc.
- The bio-toilets obviate the need for emptying, transporting or external treatment of faecal matter. Thereby, immense amount of energy is saved. No separate infrastructure is required, thereby saving energy and strengthening climate adaptability. On the contrary, the system gives out energy.
- Banka's initial business came from infrastructure companies like Larsen & Toubro Ltd, Shapoorji Pallonji & Co. Ltd and the Tata group, which required portable toilets at construction sites. Of 1,000 Bioloos built so far, 700 have been for the railways.

• Challenges and Issues

- The founder, as a women entrepreneur, feels and has experienced that it is difficult for people to understand the seriousness of the whole business and they have to prove themselves at every stage and bear with some of the toughest mind-sets of people.
- Another challenge that Banka had to overcome was the reluctance of people to work in a company associated with toilets. *"It's a dirty job, no one liked it in the beginning, but now we have 100 people employed with us because they understand they are working towards a greener future,"* says Banka.

• Innovation

- Banka BioLoo uses the bio-digester technology and its various applications to provide eco-friendly sanitation systems and solutions across India, and notably to the Indian Railways to transform the night soil laden rail tracks to waste matter free tracks.
- These toilets can be set up anywhere - at construction sites, public places, in rural housing, urban slums, train stations, wherever sewer lines are not available.

• Lessons learnt

To bring down the cost of the toilet, Banka's team experimented with different materials to build the bio-digester tank. *"We tried with different materials like plastics, fibres, and eventually now work with polystyrene bricks. It took a year to standardize our production,"* says Banka.

• Financials

Banka BioLoo is a private enterprise. Finances have been pooled internally by promoters and families. This has been complemented by bank credit and private debt financing. The Ministry of Small and Medium Enterprises (MSME) promotes women entrepreneurship by providing some benefits of loans.

- **Economic sustainability/Revenue Model**

Banka BioLoo has had several successful corporate partnerships. They often receive enquiries for bio-toilets from different corporate entities. Once the enquiry comes in they send a rate quotation and if selected, they partner to manufacture and provide bio-toilets to these companies, and to beneficiaries as a part of their CSR activities. They first engaged in a pilot for Larsen & Toubro Metro Rail (L&T), an Indian Multinational Company (MNC) with businesses in engineering, information & technology, construction, manufacturing among others, for their Corporate Social Responsibility (CSR) initiative in sanitation.

- **Implementer Contact Persons**

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- **Sources and References**

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