

Name of the Project: Innovation - Science and Technology based Entrepreneurship Development under CEWAS South Asia

Name of Funding Organization: National Science and Technology Entrepreneurship Development Board, Department of Science and Technology

Project Duration: 2017 – ongoing

Project Description:

Inadequacy in sanitation infrastructure and water supply in rural households along with insufficient technology availability in wastewater treatment in peri-urban areas poses the biggest obstacle in solving the water and sanitation crisis in developing countries like India. Lack of septage management services in rural and peri-urban areas adds up to the callosity of the situation. The project aims to provide following innovative solutions to overcome these gaps/challenges:

I. Urine Diversion Dehydration Toilets (UDDT)

UDDT provides a safe sanitation system for households by allowing them to recycle urine and faeces as agricultural products. UDDT has proved to be a complete solution for water stressed villages for sustainable sanitation. ESF through previous projects have proved the appropriateness of the technology in villages of Maharashtra. The system is appropriate for implementation of the Swacch Bharat Abhiyaan.

II. Toilet +

The technology solution proposed is a modular toilet facility for community toilets and institutional setups which has two parts – a conventional toilet and a decentralized treatment system. The treatment unit is a gravity-based decentralized treatment unit which can treat the wastewater with negligible energy consumption. These systems have been researched & implemented by ESF for over the last 5 years. The water from this unit can be recycled for flushing with an additional module, if the space and funds permit. Alternatively, the water can be discharged into a nearby surface water body. Through on-site treatment, there is reduced load on the ULBs to organize treatment and possibility for the local stakeholders to use the treated water.

III. Septage Management

Septage management basically consists of collection, treatment and proper disposal of septage. Proper septage management entails regular and safe disposal of liquid overflows and safe removal of septage from septic tanks and pits. However, faecal sludge (FS) is a potent medium for energy derivation and overall proves to be a versatile, bulk waste commodity for substantial energy production in a renewable way. The innovation is to provide strong sustainable planning processed for septage management and the solution lies in effective septage management and ensuring resource recovery from the managed sludge.