



Nutrient Recovery and Re-use of Human Waste for food production

A Training Programme on closing Sanitation, Agriculture and Nutrient loops

November 8 - 10, 2017, CASS, Bangalore

Background

India is at the forefront of sanitation crisis with nearly 626¹ million people practicing open defecation, which is more than twice the population of those practising open defecation in next 18 countries. Many studies now indicate poor sanitation as a bigger cause for stunting among children than undernourishment. In fact, many quantitative studies reveal direct connection between insanitary conditions like faecal-oral contamination and malnutrition, stunting and low cognitive abilities and other grave public health consequences (Spears and Lamba, 2013²; Chambers and Medeazza, 2013³)

While only 12% of Indians are connected to Centralised sewerage network and over 36% on on-site sanitation systems (Census 2011), with latter on a continuous rise, it is time to shift focus and fascination with one-stop solutions that fail to work in a diverse country as India. Each context needs customised solutions and this couldn't be truer in the case of Faecal Sludge Management with highly varying on-site systems, desludging frequencies and treatment objectives. The awareness about how each sector, be it engineering, information technology, architecture, law and corporates, can contribute towards overcoming these challenges is the key to devising integrated solutions for cleaner and healthier environment.

The call for integrated efforts, however, requires unlearning and deep introspection of the current paradigm. Whereas WASH interventions are indispensable to improve quality of life of those without access to sanitation and clean environment, there is a pre-dominant focus by national and international organisations on toilet usage and behaviour change. Notwithstanding the fact that these are important, it is essential that post-toilet measures such as cleaning of pits and septic tanks are given equal importance in terms of proper reuse of its contents, if safe disposal is not ensured. Poor sanitation leading to undernourishment holds true as much for open defecation by individuals as for unsafe disposal of human excreta in water bodies, drains and open spaces (See Figure-1). This is open defecation magnified by many volumes if only containment of faeces is taken care of and not safe disposal or reuse.

The sustainable sanitation solutions call for interventions at each link of the sanitation value chain starting from collection, conveyance, treatment and reuse, leading to innumerable complexities with multiple stakeholders and integrated solutions. Over the course of last three years, CDD Society and BORDA have implemented projects focussing on resource recovery and reuse of human waste in the form of treated domestic wastewater (See Figure-2) or treatment products derived from treated faecal sludge (See Figure-3) from on-site sanitation systems and appreciating future opportunities that these interventions hold, in terms of public health and environmental protection.

This training can help the planners, policy-makers and other decision-making stakeholders in taking informed decisions about handling of human waste and enabling optimum and efficient resource recovery.

¹Source: http://www.who.int/water_sanitation_health/monitoring/jmp2012/fast_facts/en/

²Available at: <http://riceinstitute.org/.../wp.../Spears-Lamba-TSC-cognition-May-2012.pdf>

³Available at: http://www.im4change.org/siteadmin/tinyMCE/uploaded/Sanitation_and_Stunting_in_India.pdf

Objectives	<ul style="list-style-type: none"> Understand safe resource recovery and reuse of products derived from human waste Understand the fundamentals of wastewater and faecal sludge management Understand methods of nutrient recycling in wastewater and resource recovery from faecal sludge via different treatment objectives and approaches Understand hurdles with resource recovery and reuse interventions
Programme Overview	The training will be conducted at the Centre for Advanced Sanitation Solutions (CASS), located in Kengeri, Bengaluru. The four day training programme is scheduled between 09:30 hrs to 18:00 hrs on each day.
Programme Fee	The training programme is residential. The course fee is INR 15000 (Rupees Fifteen Thousand only) for Indian participants and € 325 (Three Hundred Twenty Five Euros only) for international participants which includes boarding and lodging, training kit and all training materials.
Target Participants	<p>This training programme is aimed at interested individuals belonging to the fields of public health, wastewater, agriculture, water and sanitation, environment and climate change. Specifically, representatives from the following groups may apply:</p> <ul style="list-style-type: none"> Government representatives from Urban Local Bodies Non-government organisation working in similar thematic areas Community and Public Health experts Students and academia from the field of agriculture, environmental sciences, social sciences
Travel and Insurance	<ul style="list-style-type: none"> All expenses towards the onward and return travel to and from Bengaluru is to be borne by the participants (or by their organisations). All daily local travels during the programme will be provided by CDD Society. The organisers and sponsors are not responsible for any risk of illness, accident, loss of money, property etc. incurred by the participants. The participants are strongly advised to insure themselves against such risks. <p>Local travel from accommodation to training venue will be arranged only for residential participants. Non-residential participants have to make their own arrangements to travel to the venue.</p>



For additional information or to register for any of the courses; please contact :

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