

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

(A Training Programme on closing Sanitation, Agriculture and Nutrient loops)

Background

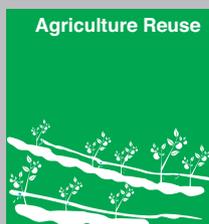
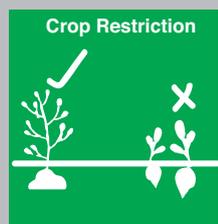
India's freshwater resources are depleting at an alarming rate. According to a CSE report, 'From a per capita annual average of 5,177 cubic metre in 1951, fresh water availability in India dropped to 1,820 cubic metre in 2001 [and...] by 2025, per capita annual average fresh water availability will be 1,340 cubic metre.' It is also true that 80% of these reserves are consumed by agricultural sector alone. Globally, agriculture appropriates 70% of total freshwater usage. With city centres expanding at an unprecedented pace, there is immense pressure on diminishing freshwater resources and subsequently stressed agricultural sector to meet the food & drinking water demand in the cities.

Such a situation calls for a paradigm shift in the way agriculture is practiced by finding alternative solutions which are cheap, effective and remunerative. The farmers in the country have already resorted to these alternatives in the form of reusing nutrient-rich wastewater and products from human waste in agriculture. Use of human waste with or without treatment is therefore not uncommon in areas surrounding cities to meet food demand of growing population.

Researchers over the past decades have studied numerous cases that involve recycling of nutrients present in excreta, urine, faecal sludge and wastewater. While communities are gradually becoming concerned about their source of food, most of the city dwellers are still oblivious of where, how and in what conditions their food is produced on the farm fields. In India, safe reuse of human waste as a viable and nutrient-rich option still remains widely unexplored.

The uncontrolled reuse of human waste, however, may come at the cost of public health risks as also the challenges associated with long term impacts on soil and crop quality. This is where 'Nexus Approach' of closing agriculture, sanitation and nutrient loops comes into focus. In this approach, human 'waste' in the form of faecal sludge, domestic wastewater, ecosan products like humanure and urine, is considered a valuable resource that possesses nutrients essential for plant growth. The Approach also takes cognizance of health risks associated with unrestrained use of non-treated waste and therefore promotes safe reuse and recycling of nutrients through methods that involve appropriate treatment and disinfection.

This training programme therefore aims at propagating and disseminating the knowledge on safe reuse practices and optimum nutrient recovery associated with human waste in agricultural production.



Objectives

The objectives of this training programme are to:

- Familiarise the participants with reuse potential of human waste
- Introduce ways and methods of safe reuse with nutrient recovery
- Introduce safety measures to be adopted with human waste reuse
- Familiarise the participants with policy and legal frameworks on reuse

Dates : November 15-18, 2016

Venue : CASS, Bengaluru

Course Fee : INR 15,000/- (Indian Participants)

€325 (International Participants)

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.

Target Participants

- 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
- 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

Programme Fee

The training programme is residential. The course fee is INR15,000/- (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.

Registration

The programme is designed for a maximum of 20 participants. The registration form may be filled and returned to the contact address given below latest by October 31, 2016. As the seats are limited, CDD Society will screen and select the most eligible applicants.

Also visit our website at <http://www.cddindia.org/nexus/> for further details on Nexus.

Travel & Insurance

- All expenses towards the onward and return travel to and from Bengaluru are borne by the participants (or their organisations) individually
- All daily local travels during the programme will be provided by CDD Society
- The organisers and sponsorers are not responsible for any risk of illness, accidents, loss of money, property, etc. incurred by the participants
- The participants are strongly advised to insure themselves against such mentioned risks

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.



Photo Courtesy : Dr.Lucas Dengel, EcoPro, Auroville



Consortium for DEWATS Dissemination (CDD) Society is a not-for-profit organisation comprising of like-minded network partners seeking to promote the provision of basic needs services in urban and rural environment through the promotion of decentralised solutions in

- Community Based Sanitation (CBS)
- Wastewater Treatment Systems (DEWATS™)
- Solid Waste Management (DESWAM)
- Citywide DBNS Planning (CSP)
- Faecal Sludge Management (FSM)



Bremen Overseas Research & Development Association (BORDA) is a German non-profit organisation with headquarters in Bremen. Since 1979, BORDA has been working in India with local partners to implement and disseminate sustainable solutions to the related problems of poverty and environmental degradation. Through the integration of appropriate eco-friendly technology into a holistic framework, including technical, social, economic and environmental components, BORDA facilitates the provision of basic needs services to urban, peri-urban and rural populations, also facilitates technical support to small and medium sized enterprises, institutions, settlements and communities.



Rajiv Gandhi Rural Housing Corporation Limited (RGRHCL) is a Government of Karnataka Public Ltd. Company. It has set up diverse housing infrastructures across the State of Karnataka. RGRHCL is experienced in the construction, coordination and facilitation of housing provision for the Economically Weaker Sections (EWS) of society under various State Government schemes.



For any enquiries contact:

Centre for Advanced Sanitation Solutions (CASS)

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