# Online Course: Advanced Training for Design Engineers on Faecal Sludge Treatment

### About the Training

Across the globe, faecal sludge management (FSM) has become a key component of safe sanitation to large populations living in non-sewered areas. One of its critical aspects is the treatment of faecal sludge through appropriate treatment plants - the need for which will increase as FSM scales up across the world. However, given the nascent stage of the sector, there are not enough professionals who can design faecal sludge treatment plants (FSTPs) for different contexts. This online course aims to bridge the shortfall of skilled professionals in designing FSTPs. It aims to equip participants with an understanding of various approaches and technologies for faecal sludge treatment, key considerations for layouts, sizing and design of FSTPs. Participants will also learn how to design key components of treatment.



### Target Audience

Engineers who wish to get involved in designing faecal sludge treatment plants.

### Course Outcome

At the end of the training, participants will be able to design faecal sludge treatment plants based on drying bed technologies; and will be familiar with thermal, electro-mechanical and co-treatment approaches for treating faecal sludge.

### Course Outline

The topics broadly cover:

- Overview of FSM Planning
- Quantity estimation of faecal sludge
- Desigining of passive systems based on drying bed technologies
- Designing of electro-mechanical systems
- Overview of thermal based treatment systems
- FSTP site layout and Master Planning
- Co-treatment

### **Key Trainers**

#### Anantha Moorthy

Senior Project Engineer at CDD with experience in R&D, design, operation & maintenance of FSTPs, decentralized sewage treatment technologies and integrated water resource management



**Guest Speakers** 

#### Dave Robbins

Sanitation specialist with over 27 years of experience focusing on Citywide Inclusive Sanitation (CWIS) and Fecal Sludge Management (FSM). His interests are in promoting various technologies associated with non-sewered sanitation. He has work experience in 28 countries in South and South East Asia, and Africa.



Ritesh Kumar

Senior design engineer at CDD with experience in design and implementation of multiple FSTPs for diverse contexts across India.



### R S Arun Kumar

Sanitation expert with over 17 years of multi-faceted experience in decentralized wastewater management, faecal sludge management and solid waste management. Presently a researcher at the University of KwaZulu-Natal's WASH R&D Centre in Durban, South Africa, attempting to link practical experience in sanitation with core research at the academia.



Kartik Kamath

Engineer at CDD with over 3 years of experience in FSM, he has designed 8 FSTPs across India.



Dorai Narayana

Expert with over 40 years of experience in both centralized and decentralised sanitation. He has worked for Consultants, Government as well as Utilities. He has also contributed in advisory capacities for various sanitation and sewerage projects in several developing countries in Asia and Africa. He has many publications to his name, notable of which is a book on co-treatment of fecal sludge, published by IWA.





Krishna Swaroop

Senior Project Manager at CDD, he leads the FSM programme at CDD, which covers planning, technical support and capacity building.



Associate Project Manager at CDD, she has worked on FSM plans for 20+ cities in India and Afghanistan.

### **Agenda: Session Themes**

Day 1: 21st April, 2021: Introduction to the training and setting the context for Faecal Sludge Management

Day 2: 22nd April, 2021: Introduction to faecal sludge treatment technologies

Day 3: 23rd April, 2021: Screening and solid-liquid separation Day 4: 26th April, 2021: Stabilization and unplanted drying bed

Day 5: 27th April, 2021: Planted drying beds

Day 6: 28th April, 2021: Electromechanical and thermal systems Day 7: 29th April, 2021: Co-treatment and hydraulic profile Day 8: 30th April, 2021: Site selection, layout and master planning

Day 9: 3rd May, 2021: Economics of FSM and DPRs

Day 10: 4th May, 2021: Wrap up

### Registration details

Apply at: http://bit.ly/3siapbL (Max. 25 participants)

The last date for registration: 10<sup>th</sup> April 2021

Training Fees: 15,000 INR for Indian Participants, 300 USD for international participants.

Organizations intending to nominate 3 or more people can write to us for better coordination.

## Check out what participants of our other courses have to say:

https://www.youtube.com/watch?v=K31FyRQfCvc

https://www.youtube.com/watch?v=qqS1Uxilx\_k

https://www.youtube.com/watch?v=WCOPU8t6X7E

### Organised by:





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