

OCTOPUS

Operational Collaborative Tool of Ongoing Practices in Urgent Sanitation

SANI-HUB



Agenda

- **5 min introduction by GWSC**
- **10 min background of the project**
- **10 min presentation of OCTOPUS**
- **20 min presentation of training modules**
- **10 min QA**



Development of the OCTOPUS platform

- Implemented partners UPM and Solidarites international
- Developed in partnership with DPHE Bangladesh
- Implemented in close collaboration with Sanitation actors from Cox's Bazar
- Supported and facilitated by the Global Water and Sanitation Center
- Funded by Bill & Melinda Gates Foundation (BMGF)



ACTIVITIES

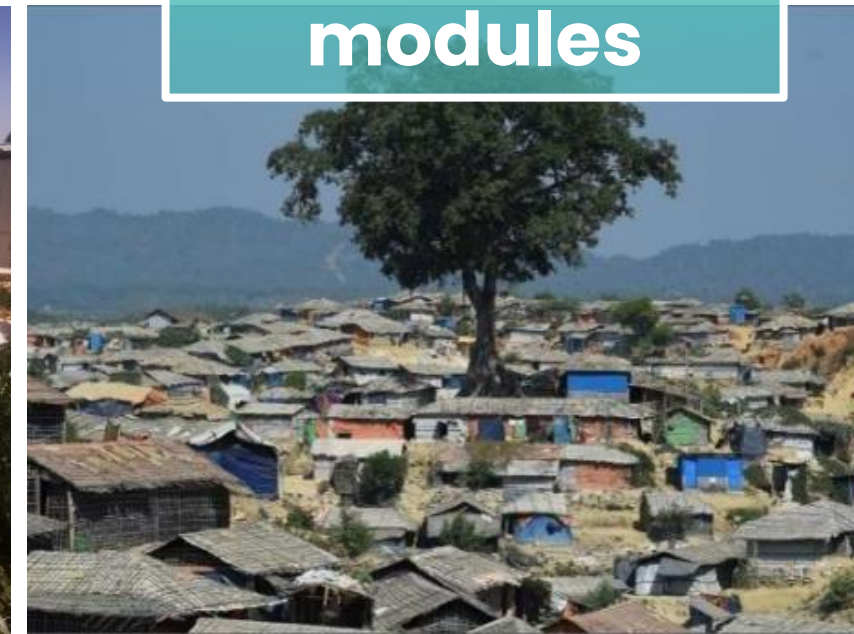
Panel of
experts



New case
studies



Training
modules





Panel of experts

SETTING UP THE PANEL OF EXPERTS

- Identification of 31 experts from Bangladesh and international humanitarian Sanitation Community
- Definition and validation of terms of reference for panel of experts

REVISION OF CASE STUDIES

- Definition of modalities of the revision process
- Facilitation of 4 panels of experts' meetings
- Revision of 8 case studies



New case studies

Revision of OCTOPUS template

- OCTOPUS template has been reviewed by the technical team
- OCTOPUS template has been modified and improved
- Modifications have been implemented on the platform with support of IT company

Development of new case studies

- Specific focus on Cox's Bazar with consultation of Sanitation Cluster and joint field visits
- Development of case studies from other humanitarian contexts (Lebanon, Syria, Kenya, South Sudan)

OCTOPUS available on SANIHUB

Case Studies

Publish Case Study

23 Case Studies



OCTOPUS Case Study

Treewell in Bekaa valley

Maalaqa, Lebanon



OCTOPUS Case Study

DEWAT chain for the host Community

Menjez, Lebanon



OCTOPUS Case Study

Anaerobic Baffled Reactor (ABR)

Cox's Bazar, Bangladesh

Anaerobic Faecal Sludge Treatment Plant

OCTOPUS Case Study | Implemented by: Bangladesh Red Crescent Society, Swedish Red Cross, International Federation of Red Cross and Red, Crescent Societies

09 October 2023

Download this Octopus Case Study



Description of the emergency context

Currently, there are 929,606 Rohingya refugees residing in 33 congested camps that have been officially designated by the Government of Bangladesh. This population surge occurred as a result of the extreme violence outbreak in Myanmar's Rakhine State on August 25, 2017, which led to an estimated 687,000 Rohingya refugees crossing the border into Cox's Bazar, Bangladesh. The Rohingya refugees have repeatedly sought refuge in Bangladesh due to ongoing persecution. Previous significant influxes occurred following acts of violence in Rakhine State in 1978, 1992, 2012, and once again in 2016. However, the largest and most rapid refugee influx from Myanmar into Bangladesh began in August 2017. Operating within highly congested settings, such as the Rohingya camps, WASH actors face numerous challenges in implementing effective faecal sludge treatment processes that can efficiently remove pathogens. These challenges primarily stem from space limitations, which impose constraints on the inclusion of appropriate, safe, and sustainable processes for treatment.



Project Details

- Geographic Location**
Cox's Bazar, Bangladesh
- Main treatment objectives**
 - BOD / COD Reduction
 - Nutrient reduction
 - Pathogen reduction
 - Reuse of treated wastewater
 - Sludge reuse
 - Solid/liquid separation
 - TSS and TDS reduction
- Resources needed for operation**
Electricity
- Technologies employed**
 - Anaerobic baffled reactor
 - Anaerobic filter
 - Constructed wetland
 - Infiltration
 - Screen
 - Settler
 - Unplanted drying beds
- Design population**
20 000 people
- Design input flow**
14 m³/day

Click the following link: <https://sanihub.info/case-study/>

Feedback

- Questions, comments, and improvement suggestions can be provided by email:

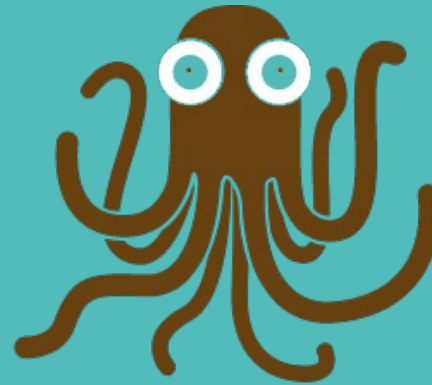
octopus@solidarites.org





UPM Umwelt-Projekt-Management GmbH

YOUR PARTNER OF CHOICE FOR CLIMATE
ACTION AND SUSTAINABLE DEVELOPMENT



OCTOPUS

Operational Collaborative Tool of Ongoing Practices in Urgent Sanitation

SANI-HUB



Date: 30.09.2024

| Presenter: Stefanie Abulazm-Thieme



Octopus Training Modules

- Trainings to provide knowledge on faecal sludge management in emergency settings.
- Trainings to enable informed decision-making related to faecal sludge treatment and disposal.

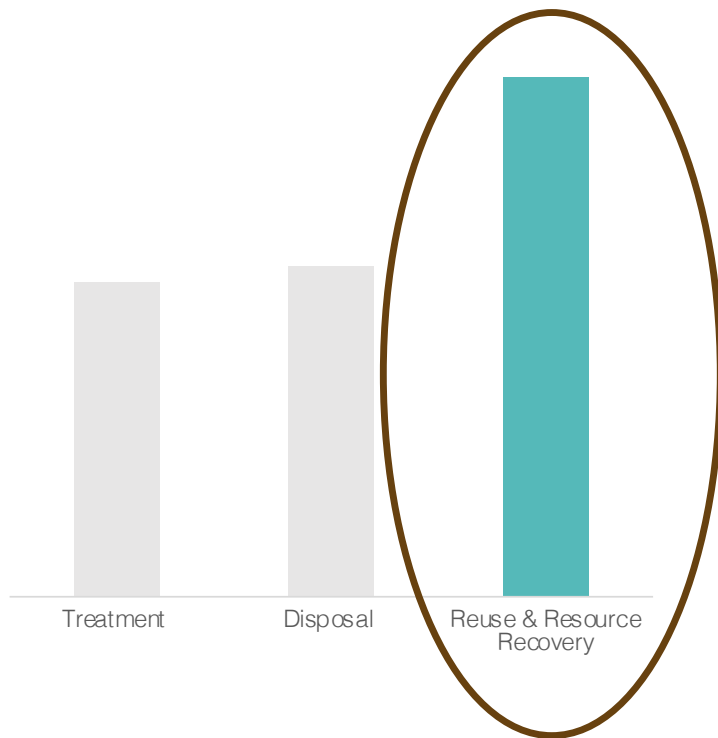


SANI-HUB

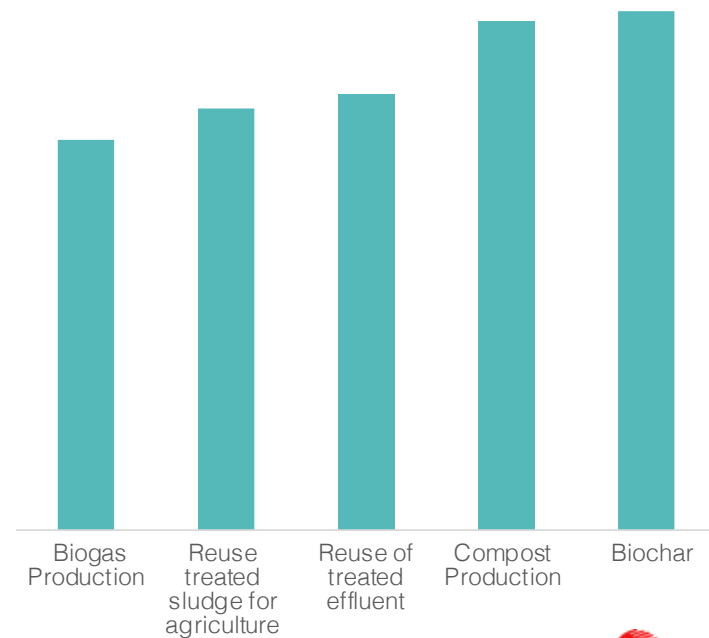


RESULTS OF THE TRAINING-NEEDS-ASSESSMENT

Perceived Relative Knowledge Gap

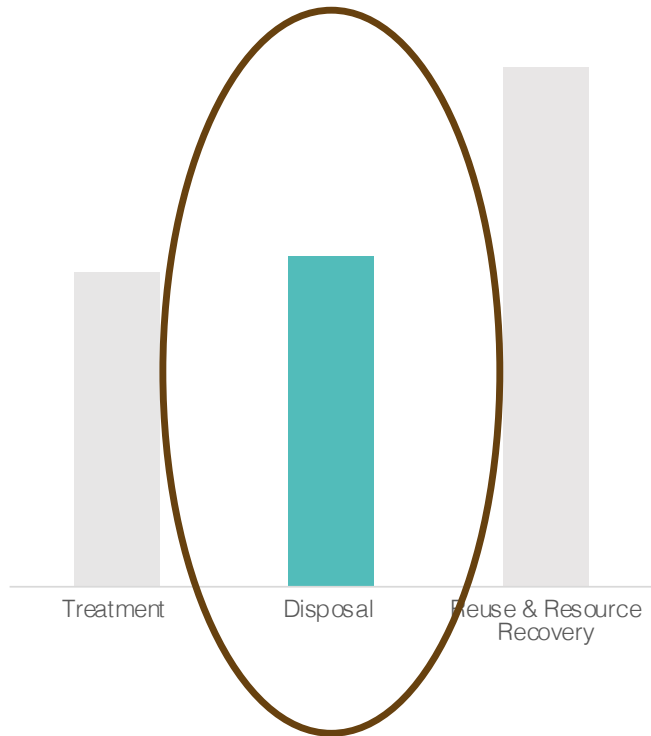


Perceived Relative Knowledge Gap to Resource Recovery

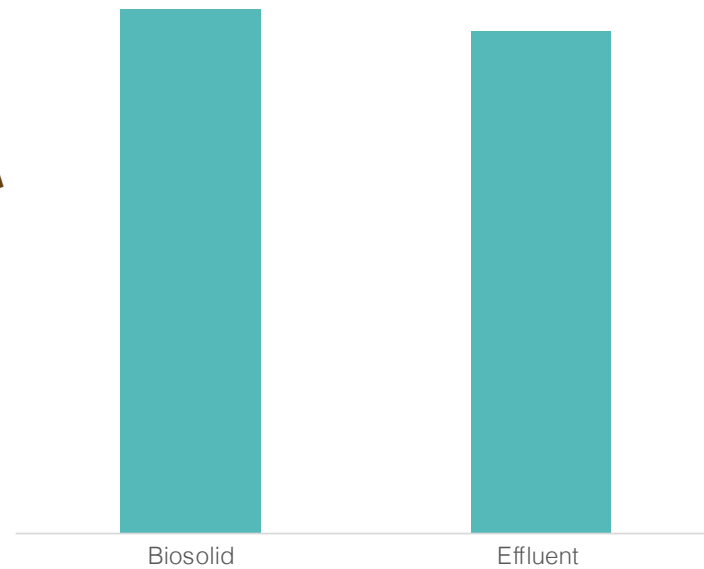


RESULTS OF THE TRAINING-NEEDS-ASSESSMENT

Perceived Relative Knowledge Gap

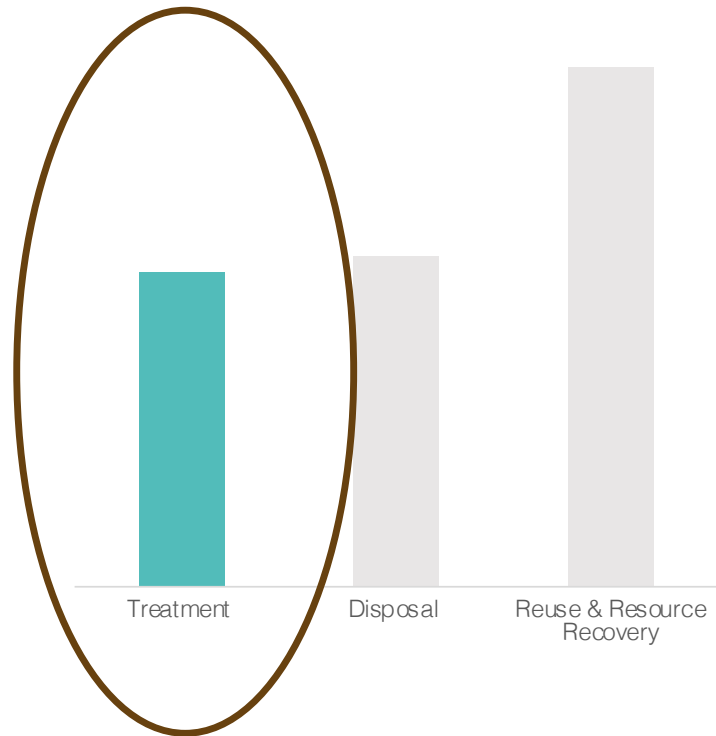


Perceived Relative Knowledge Gap Related to Disposal

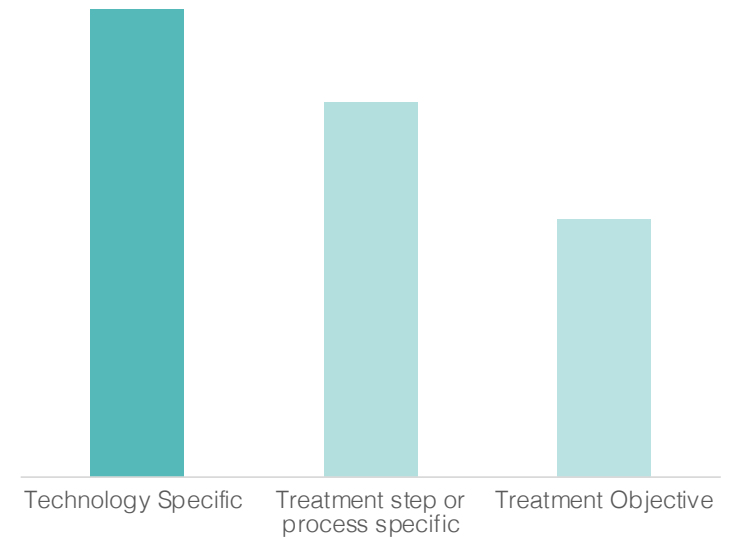


RESULTS OF THE TRAINING-NEEDS-ASSESSMENT

Perceived Relative Knowledge Gap

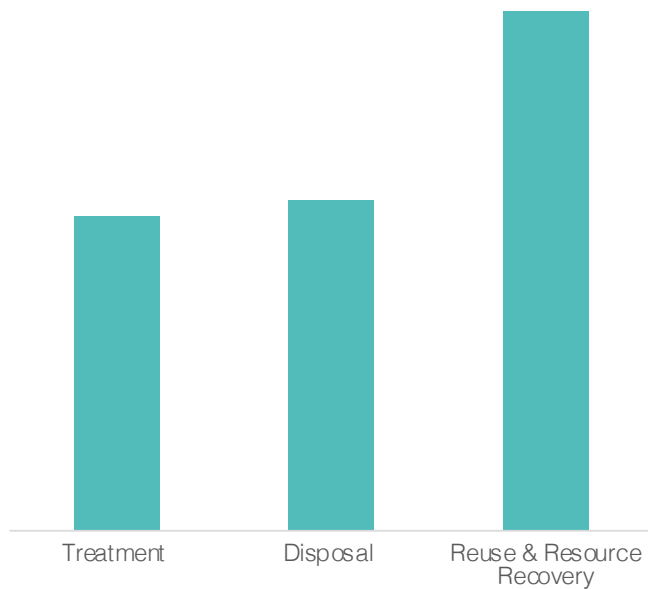


Perceived Knowledge Gap by Sub-Topic of Treatment

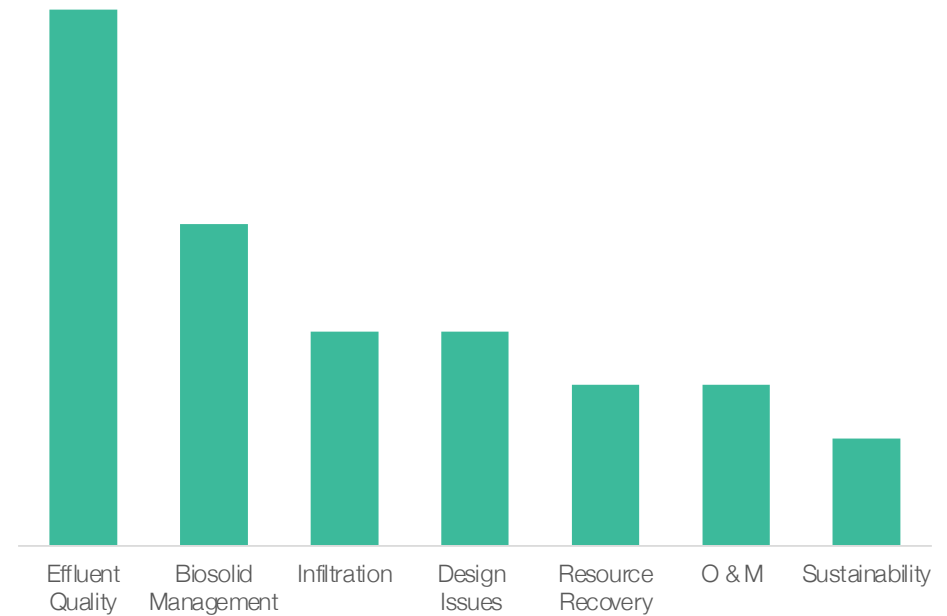


COMBINATION OF TRAINING-NEEDS-ASSESSMENT AND DESK REVIEW

Perceived Relative Knowledge Gap based on Training-Needs-Assessment



Main Challenges and Needs based on Desk Review



TRAINING MODULES

- First three training modules, with possibility for additional modules to be published.

Biogas Sanitation

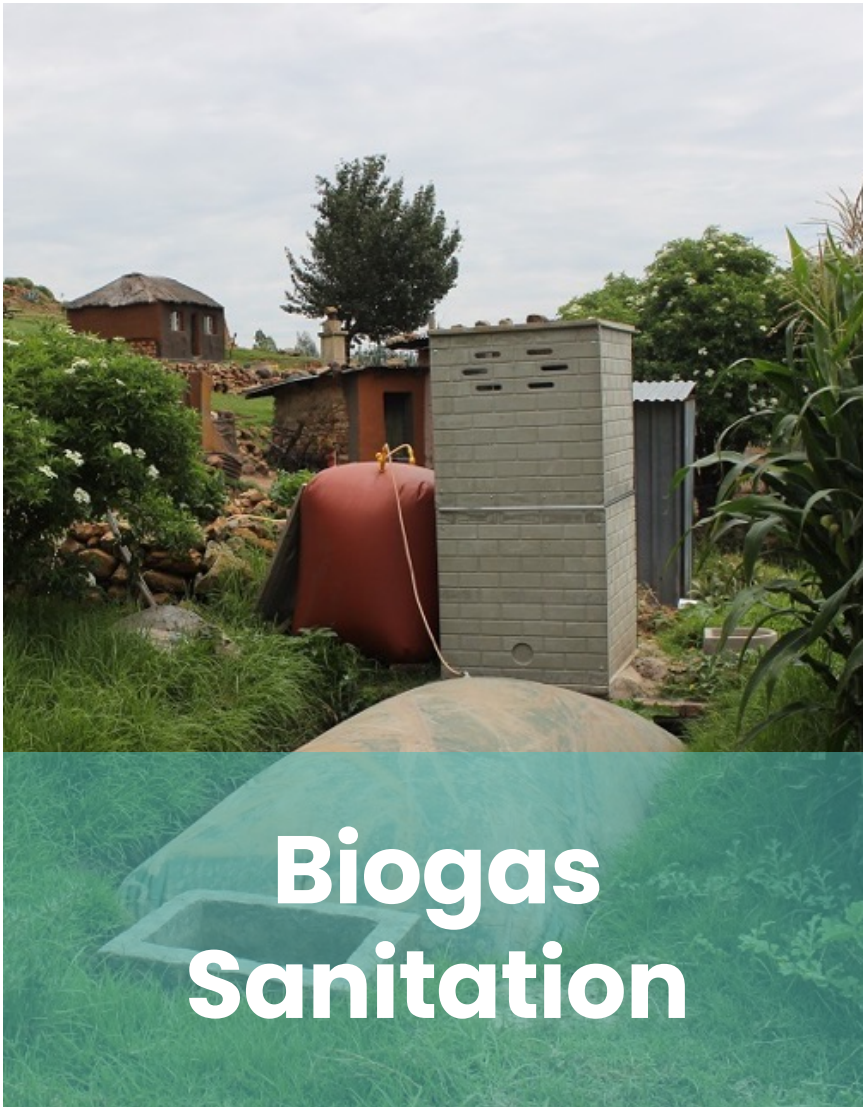


Effluent Management



Sludge Management





Biogas Sanitation

LEARNING OBJECTIVES

- Introduce the Basics of Anaerobic Digestion and Biogas Recovery.
- Practical Solution during the Stabilisation and Recovery Phase of Emergency Settings.

KEY TOPICS

- Basics of Anaerobic Digestion
- Digestion Technologies and Types
- Process Parameters
- Biogas Installation Planning
- Operation and Maintenance
- Sanitation Biogas Plants in Rohingya Refugee Camp



Effluent Management

LEARNING OBJECTIVES

- Introduce the Basics of Effluent Management following Primary Treatment.
- Provide an Overview of Treatment Options for Effluent Instead of Direct Release into the Environment.

KEY TOPICS

- Overview of Post-Treatment Techniques (i.e., Planted Gravel Filter, Trickling Filter)
- Advanced Technologies (as part of the Reinvented Toilet Challenge)
- Effluent Irrigation
- Effluent Infiltration

SANI-HUB


solidarités
International


UPM



Sludge & Biosolid Management

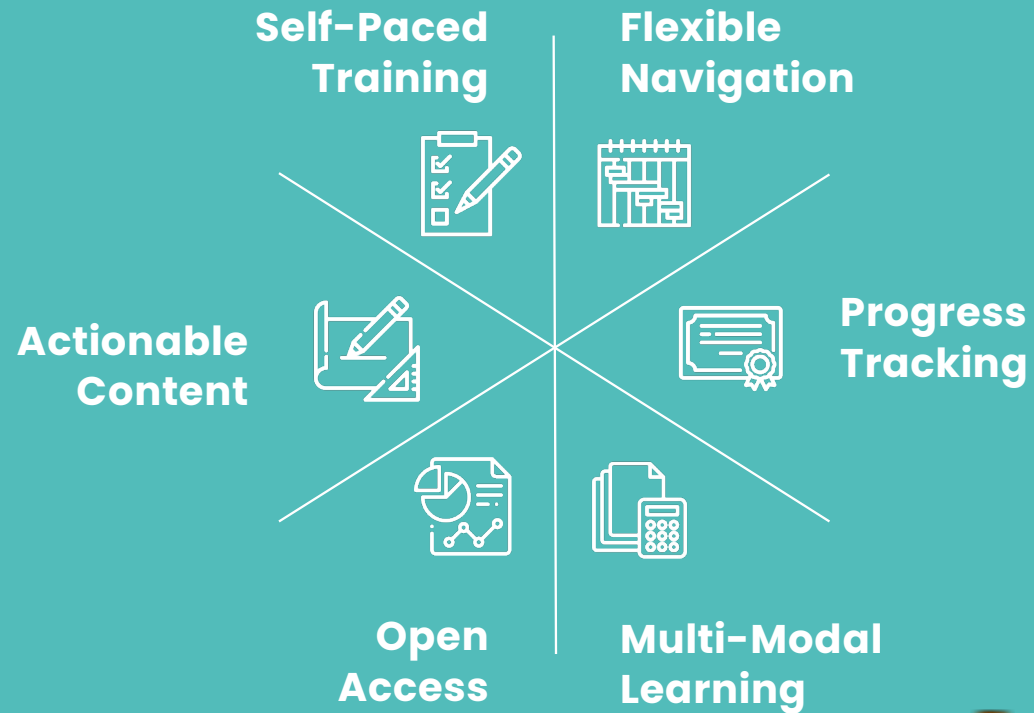
LEARNING OBJECTIVES

- Provide an Overview of Appropriate Sludge and Biosolids Management Practices.
- Provide Practical Solutions that ensure Safe and Responsible Handling up until Safe Disposal or Reuse.

KEY TOPICS

- Pretreatment and Treatment Options
- Reuse of Sludge (with Focus on Agricultural Purposes)
- Burial or Disposal of Sludge (i.e., Deep Row Entrenchment)
- Burning of Sludge (i.e. Pyrolysis)

KEY FEATURES

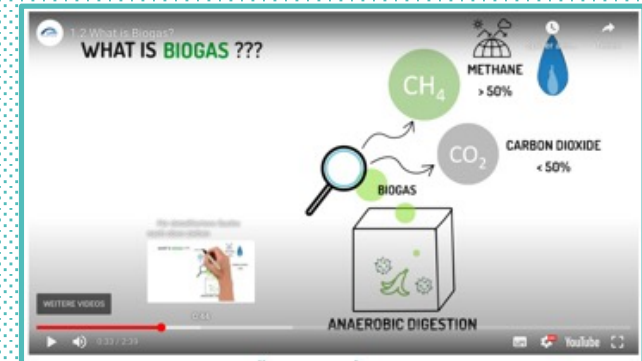


Functionalities & Elements

Case Studies / Real-Life Examples



Explanatory Videos



Further Reading Material

Topic **Materials**

Further Reading:

- Results of faecal sludge analyses in Kampala, Uganda - Pictures, observations for 76 samples. ([Link](#))
- The Characterization of Faeces and Urine: A Review of the Literature Technology. ([Link](#))
- Database for the physicochemical composition of (treated) ligno-macroalgae, various feedstocks for biogas production and biochar.
- Sampling for Faecal Sludge and Other Liquid Wastes in Emergencies
- Methods for Faecal Sludge Analysis p. 257 – 268 ([Link](#))

Quizzes and Exercises

Quiz

Biogas Sanitation > 1 Basics of Anaerobic Digestion > 1.4.1 Biodegradability of various feedstock

What is the main factor used to assess the suitability of organic waste for anaerobic digestion? What is its impact on biogas production potential?

- A) Total Solids (TS)
- B) Volatile Solids (VS)

Progress Tracking and Certification

Register & Login

login

Username or Email

biogaslover123

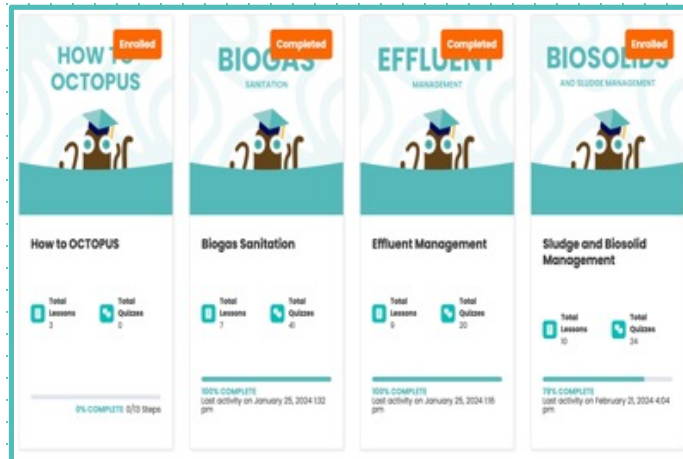
Password

Remember Me

Log In

Not have an account yet? [Register](#)

Track your progress & complete the course



Receive your Certificate



SANI-HUB

solidarités
International

UPM

Participatory Contribution

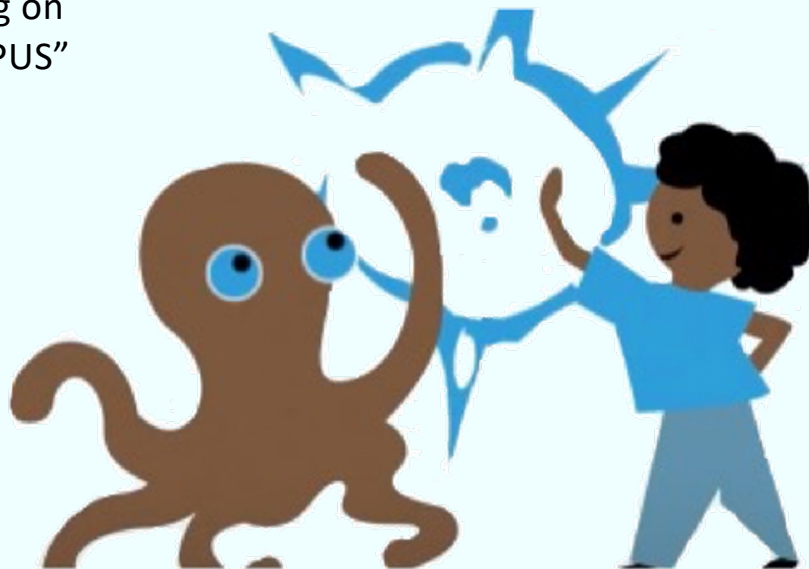
How to OCTOPUS



- Share your experiences and knowledge
- Add case studies to the platform
- Use our training on “How to OCTOPUS”

Training Resources

- Add trainings and training resources by contacting octopus@solidarites.org

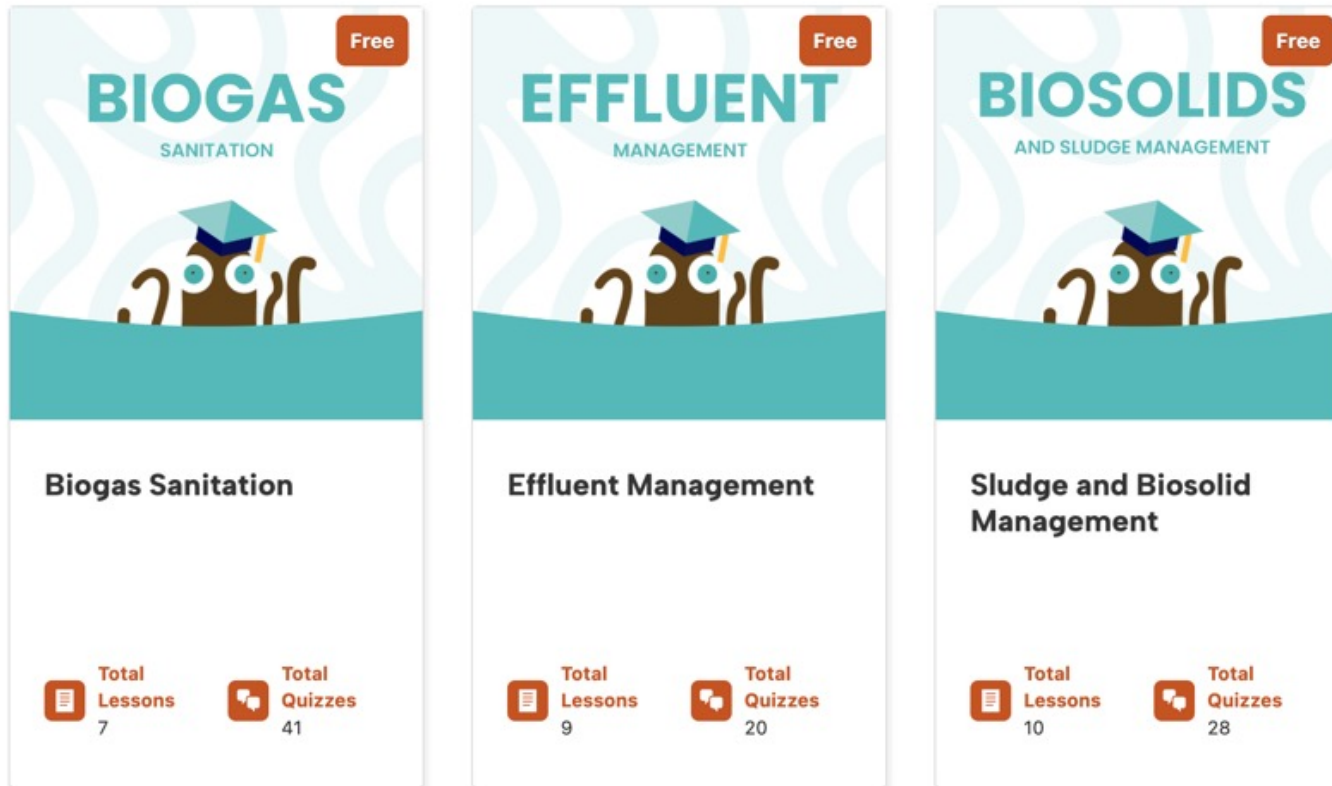


SANI-HUB


solidarités
International


UPM

THE WEBSITE



Click the following link: <https://sanihub.info/courses/>

Feedback

- Questions, comments, and improvement suggestions can be provided by email:

octopus@solidarites.org

