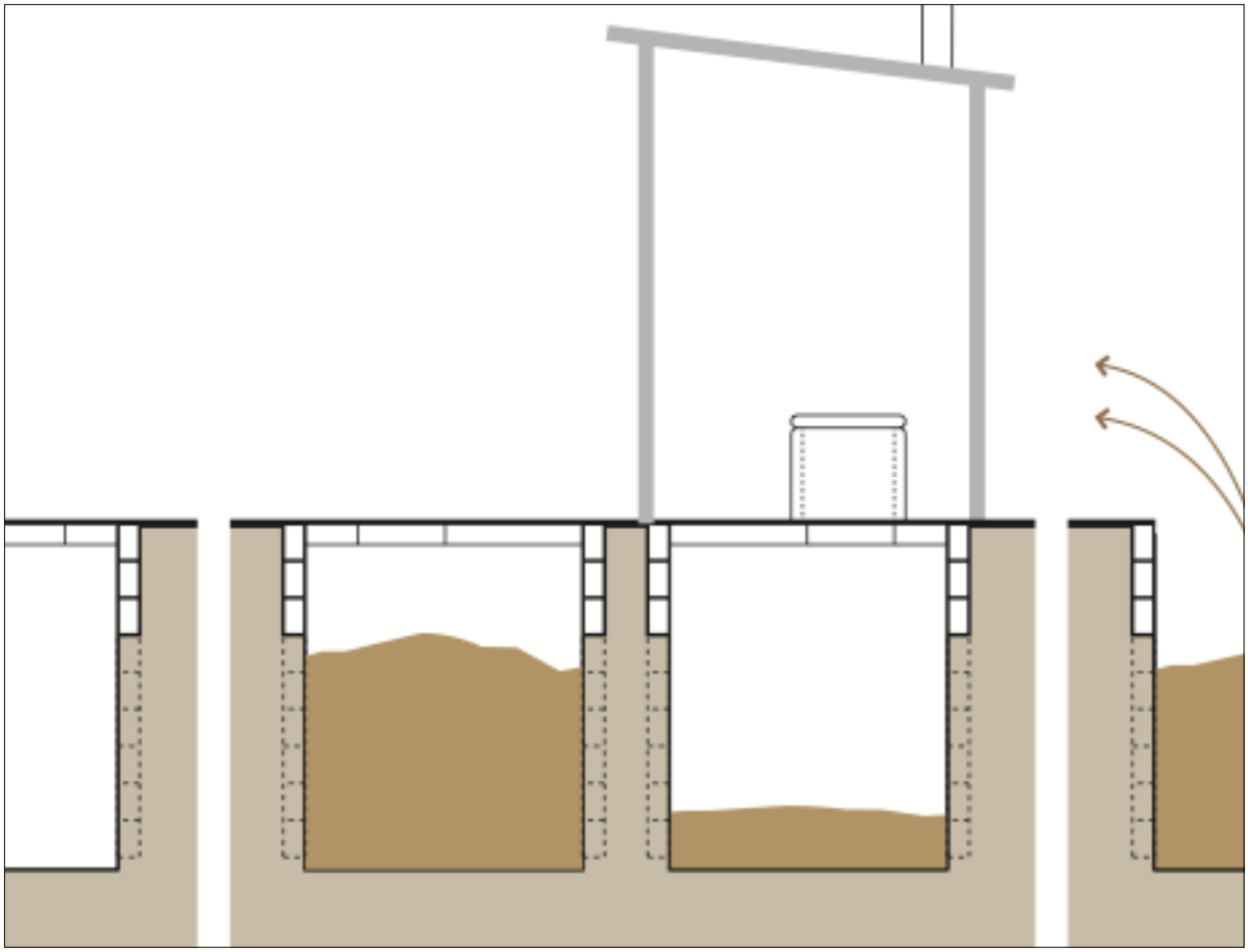
Course Announcement

SWIM - Sustain Water MED

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH



Interactive e-Learning Course

New Sanitation Systems & Technologies

February 2015

An Interactive e-Learning course based on the «Compendium of Sanitation Systems and Technologies» by eawag aquatic research. Developed on behalf of ACWUA-WANT and the GIZ GmbH by Margraf Publishers.

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

eawag aquatic research

ACWUA

dis|course

COURSE OUTLINE

Background

This e-Learning course is based on the «Compendium of Sanitation Systems and Technologies» by eawag aquatic research. This compendium was developed in the context of the Community-Led Urban Environmental Sanitation Planning (CLUES) – a multi-sector and multi-actor – approach accounting for water supply, sanitation, solid waste management and storm drainage.
The course has been developed as a part of the ACWUA-WANT Capacity Building initiative, promoted and subsidized by the GIZ GmbH, Germany.

Target User & Objectives of the Course

This course is intended to be used by engineers, planners and other professionals who are familiar with sanitation technologies and processes. It is not a training manual or stand-alone resource for people with no experience in sanitation planning.
The user of this e-Learning must have an interest in learning more about alternative or novel technologies. The approach and information presented herein is meant to broaden the spectrum of innovative and appropriate technologies considered for sanitation planning.
The objectives of the e-Learning course:

- ✓ Expose the participant to a broad range of sanitation systems and innovative technologies;
- ✓ Help the participant to understand and work with the system concept, i.e. the process of building a complete system, by iteratively choosing and linking appropriate technologies;
- ✓ Describe and fairly present the technology-specific advantages and disadvantages.

Cooperative Distance Learning Approach

Participants should be familiar with the basics of distance-learning and with the principles of the Cooperative Learning Approach – an educational approach which aims to organize learning activities into academic and social learning experiences.
Students must work in groups to complete tasks collectively toward the goals of the course. Unlike individual learning, a cooperative learning process can capitalize on one another's resources and skills (asking one another for information, evaluating one another's ideas, monitoring one another's work, etc.).
The e-tutors who are guiding the learning process are not supposed to give detailed information but to facilitate students' learning. Everyone succeeds when the group succeeds.

Structure of the Course

The e-learning course is divided into 2 units. **«System Templates»** consist of 8 parts describing the structure and the components of complete sanitation systems. Every system template gives short overviews on the function, the use and the pros/cons of the components which are needed to establish this sanitation system. Once the participant is familiar with the sanitation systems, he/she can go into detail and follow the Technology Information string to learn in detail about the components of new sanitation approaches in **«Functional**

Groups & Technologies». This unit describes around 50 technological components of which a particular sanitation system may be composed. The technological components are organized in 5 groups.
At any time, participants can move between the System Templates and the Technology Information (they are cross-referenced) until he/she has identified some systems and/or technologies that could be appropriate for further investigation.
At the end of the course, participants should be able to develop own system configurations and to evaluate the advantages and possible risks of the technologies they chose for their approach.

Course Components

The e-Learning course is designed for a total learning time of 4 weeks (5 weeks together with the obligatory PRE-Course). As mentioned above, the course is meant for professionals from the sanitation sector. That's why the course is supposed to be used on an extra-occupational basis. Beside their daily work, participants should calculate with 1 hour per day to browse through the reading material and to develop their own sanitation scenario. Beside the interactive presentation of the learning content, the course includes Webinars, Multiple Choice Tests and Exchange Forums for a collaborative group work.

Timeframe

- ✓ **Application** Period: 16.-25.01.2015
- ✓ Obligatory PRE-Course «SAN21» and short online test: 26.-30.1.2015
- ✓ Choice of participants to the main course « New Sanitation Systems & Technologies»: 30.1.-2.2.2015
- ✓ **Course Period: 2.2.-2.3.2015**; interactive Live Chats: 9. and 16.2.2015, 15:00 GMT each
- ✓ **Test (online only): 20.-22.2.2015**

Pre-Requisites to Join the Course

- ✓ Successful completing the **PRE-Course «Sanitation21»** and the online test
- ✓ **Professional Background:** Participants are engineers, planners or other professionals and are familiar with sanitation technologies and processes.
- ✓ **Workload:** At least 6 hours per week in order to complete the course successfully.
- ✓ **Technical environment:** Up-to-date browser and a stable internet connection to read the course and work together with other participants on the individual system templates. Also required: a headset to join the interactive web-sessions.
- ✓ **Language:** This course is offered in English. The B2 language level is required to follow the course. A special language test may be necessary to get accepted as participant.

Certificates

Successful participants receive a certificate issued by SWIM / GIZ. To receive a certificate, participants have to

- ✓ Join at least one (of two) interactive webinars
- ✓ Successfully complete a Multiple Choice Test (at least 60%) in the middle of the course period
- ✓ Develop their own sanitation system
- ✓ Actively take part in the working groups

CONTENT COMPONENTS

Unit 1 «System Templates»

Unit 1 of the course describes eight (8) different System Templates. Although the System Templates are predefined, participants must select appropriate Technologies from the options presented. The choice is context specific and should be made based on the local environment (temperature, rainfall, etc.), culture (sitters, squatters, washers, wipers, etc.) and resources (human and material).
The System Templates 1 to 8 range from simple (with few Technology choices and Products) to complex (with multiple Technology choices and Products).

A System Template defines a suite of compatible technology combinations from which a system can be designed. Each System Template is distinct in terms of the characteristics and the number of products generated and processed. They present logical combinations of technologies, but the planner must not lose a rational, engineering perspective – combinations can be understood as proposals how technologies can be combined. **The target of the course is to enable the participants to adapt the templates to use them in their own local situation.**
The course proposes the following sanitation scenarios:

- ✓ System 1: Single Pit System
- ✓ System 2: Waterless System with Alternating Pits
- ✓ System 3: Pour Flush System with Twin Pits
- ✓ System 4: Waterless System with Urine Diversion
- ✓ System 5: Blackwater Treatment System with Infiltration
- ✓ System 6: Blackwater Treatment System with Sewerage
- ✓ System 7: (Semi-) Centralized Treatment System
- ✓ System 8: Sewerage System with Urine Diversion

Unit 2 «Functional Groups & Technologies»

The Sanitation scenarios described in unit 1 consist of combinations of several technologies which the participant may adapt and/or re-arrange according to his own scenario. Unit 2 presents 54 **«Technology Sheets»** which explain the technical details of the particular components a systems is composed of.
The **Functional Groups** arrange the technologies into groups of techniques performing a similar function. Technologies are organized in five (5) different Functional Groups:

- ✓ **User Interface** (describes the way in which the sanitation system is accessed by the user)
- ✓ **Collection and Storage/Treatment** (describes the technologies that collect and store the intermediate products that are generated at the User Interface)
- ✓ **Conveyance** (moving or transporting Products from an onsite Collection and Storage/Treatment technology to a subsequent offsite treatment)

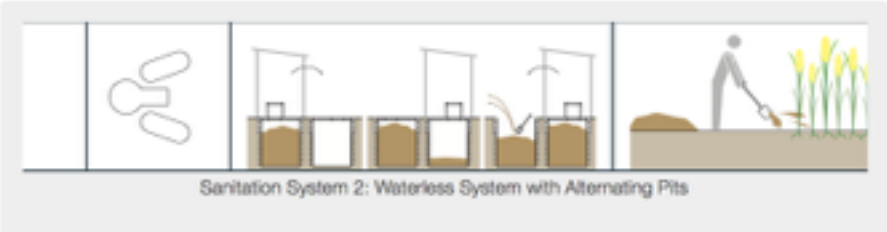
- ✓ **(Semi-) Centralized Treatment** (technologies that can be used for the treatment of faecal sludge and blackwater)
- ✓ **Use and/or Disposal** (technologies and methods that use or dispose of the output products in ways that are the least harmful to the user and the environment)

COURSE COMPONENTS

Learning Environment – Didactical Concept

Each of the 8 **systems** is described on 4 short pages. The Functional Groups and the technologies the system is composed of are listed.

Each technology listed in the Functional Groups-column is linked to very short overview window. From here, one may proceed to the detailed description of the technology (or continue studying the system approach).



Each of the 50 **technology sheets** is described on 6 short pages. Every page mentions the related system template and the (main) products which are treated by the technology – this makes it easy to jump back and forward while working on an own choice of technologies needed for an individual system template.

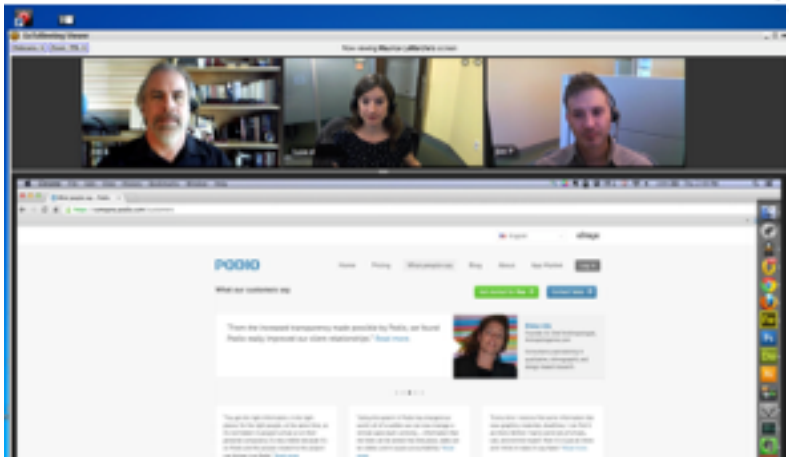
Cooperative Learning Environment

Cooperative learning is an educational approach which aims to organize learning activities into academic and social learning experiences. Students must work in groups to complete tasks collectively. Students take benefit from one another's resources and skills (asking one another for information, evaluating one another's ideas, monitoring one another's work, etc.).

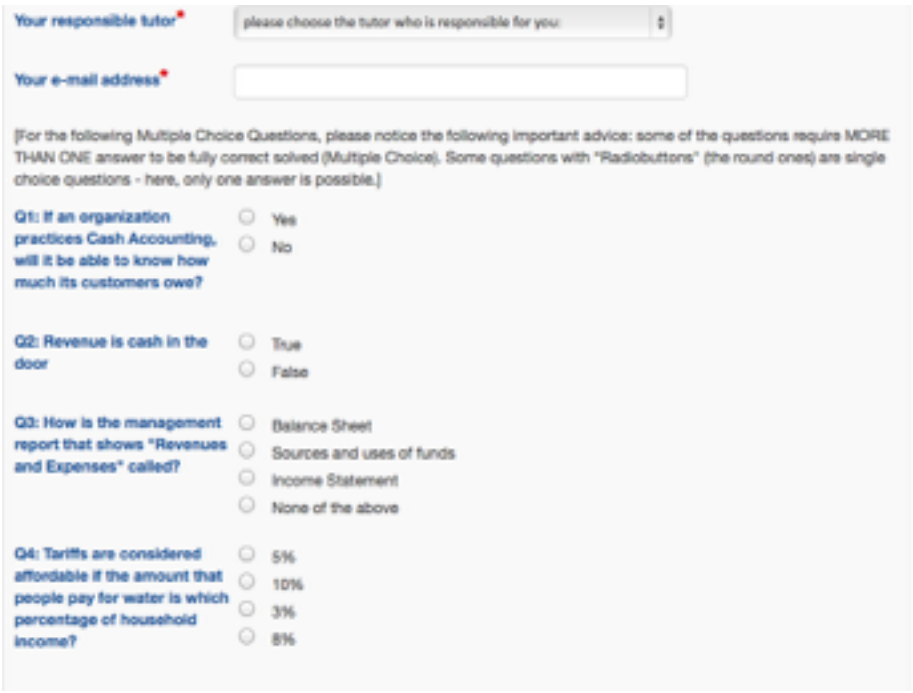
All experiences show that the learning result in an e-Learning course is strongly influenced of the grade of collaboration between participants.

The tools used to bring participants into interaction with each other are:

- ✓ **Social Media (Facebook):** The course makes use of the fact that almost everybody has an account at Facebook which can easily be accessed at any time from everywhere with a Smartphone. Facebook offers the possibility to established closed groups which guarantee a certain level of privacy – only course participants have access to the group and to the communication. Social Media are used for general communication and for administrational purposes (announcement of test, webinars etc.)
- ✓ **Webinars:** Regular components of the course are interactive experts input lectures. Up to 100 participants are connected together in a virtual conference room and follow the presentation of an expert, can post their questions and forward their comments. The webinar uses VoIP (Voice over IP) technique for audio and video communication which is especially optimized for low bandwidth.



- ✓ **Working Groups (Forum):** The course room allows participants to get into content-related discussion with each other and up-/download own resources. The discussion forum is mainly used to establish working groups in which participants collaborate to achieve certain targets and to benefit from a mutual exchange of experiences.
- ✓ **Multiple Choice Tests:** Interactive test forms give participants the opportunity to check whether they understood the content properly. Multiple Choice Tests help the tutors and the course administration to evaluate the students performance and may as well give the basis to decide on whether certificates can be issued.



APPLICATION & CONTACT

Course Administration

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Application

Online only in the period 15 - 30 January, 2015 on the SWIM Sustain Water MED website: http://swim-sustain-water.eu/index.php?id=352

Organizational Questions & Support

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