

GPDP in Humanitarian WASH

IHE's contribution to capacity
development of the humanitarian
WASH sector

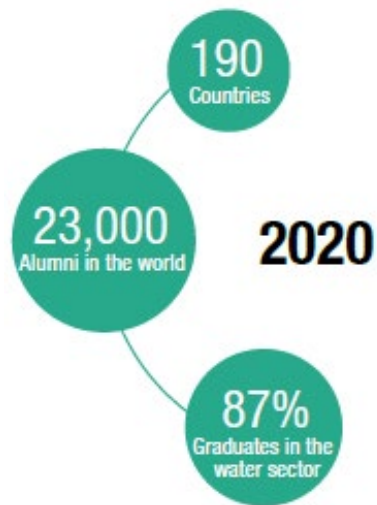
March 17

Associate prof. Tineke Hooijmans



Content presentation

1. IHE Delft | Innovations
2. Humanitarian WASH at IHE
3. IHE-UNICEF coop. framework:
*strengthening the capacity of the Humanitarian WASH Sector:
GPDP in humanitarian WASH*
4. Q&A



IHE Delft Institute for Water Education is the largest international graduate education institute in the field of water. The institute confers fully accredited MSc degrees and PhDs.

Since 1957 the Institute has provided education to more than 23,000 water professionals from over 190 countries, the vast majority from the developing world.

103 PhD fellows* are currently enrolled in water-related research. The Institute carries out numerous research and capacity development projects throughout the world.

Core activities

Education & Training

IHE Delft offers a wide range of flexible, high quality, specialized educational programmes to respond to the needs of diverse clients from the water sector. These include MSc and PhD programmes, along with online and short courses.

Research & Innovation

With over 212 academic staff and 103 PhD fellows active in water-related, problem-focused and solution oriented research on development issues, IHE Delft has a vibrant multicultural and multidisciplinary research atmosphere.


Institutional Strengthening

IHE Delft strives to strengthen the programmes of universities and research institutes as well as the knowledge and capacity base of ministries and other water sector organizations.

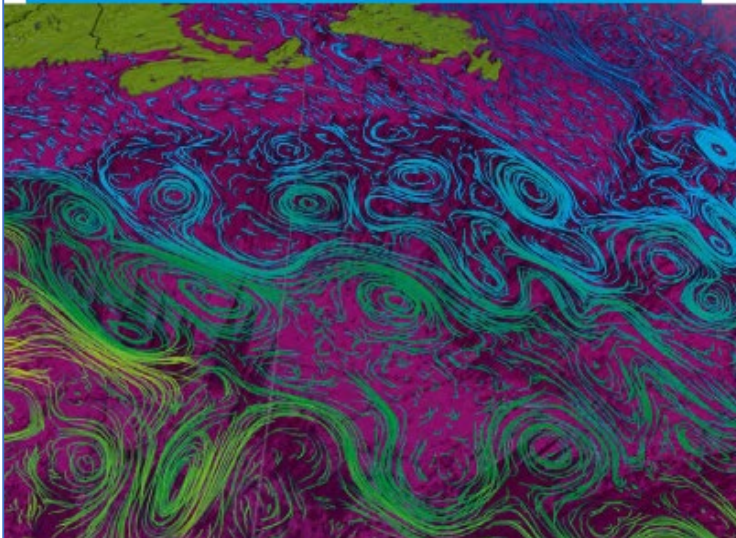
Capacity development



60 Innovations – 60 years of IHE Delft




IHE Delft Innovations for Water and Development



Microbial desalination: cheaper and more sustainable

IHE Delft and partners are developing a revolutionary microbial approach which reduces the energy required to produce safe water. The technology uses desalination cells (MDC) as pre-treatment for conventional reverse osmosis desalination. A production plant is under construction. The use of electroactive microbial MDC unit powers the process, significantly less energy for pre-treatment and wastewater treatment technology has great potential. This technology has great potential applied in water-stressed areas to produce more sustainable water.

Locations: Chile, Spain, Turkey
Contact: Sergio Salinas (s.salinas@ihe-delft.nl)
Partners: LEITAT, Mikrolin, Onco



27 Rapid assessment of climate change on inlet-interrupted coasts GPDPs: tailored e-learning opportunities for sanitation professionals

Most coastlines around the world are interrupted by inlets connecting the ocean to estuaries, lagoons, and rivers. Coastlines in the vicinity of inlets will be affected not only by climate change-driven variations in oceanic processes (e.g. sea level rise) but also by climate change-driven variations in terrestrial processes (e.g. rainfall/runoff). The combination of their sensitivity to several climate change-driven variations in system forcing and their heavy human utilization, renders the thousands of inlet-interrupted coasts around the world highly vulnerable to climate change impacts.

IHE Delft has developed an innovative, easy-to-use mathematical model (SMIC-Scale Aggregated Model for Inlet Interrupted Coasts) to obtain estimates of local scale (< 25 km alongshore) coastline

The Graduate Professional Diploma Program (GPDP) programme is a new educational product of IHE Delft that disseminates sanitation and sanitary engineering knowledge to professionals unable or not wishing to pursue an MSc degree in Sanitation and Sanitary Engineering, or with an MSc Degree in a related field, who wish to specialize professionally. The programme consists of a sequence of four or five online courses, regular short courses or a combination.

The online courses can be followed part-time, without interrupting a daytime career. In order to ensure that the program fits the personal circumstances of the applicant, courses will be selected and a personal study plan will be designed in collaboration with a study advisor. The total duration of the program depends on this study plan, with a minimum of 1.5 and a maximum of 4.5 years. Following up on the successful launch of the first GPDP, IHE Delft has developed and launched four additional GPDPs, namely Water Supply Engineering, Water and Wastewater Treatment Technology, Flood Risk Management and Urban Water Network Management, and Cleaner Production and Resources Management.

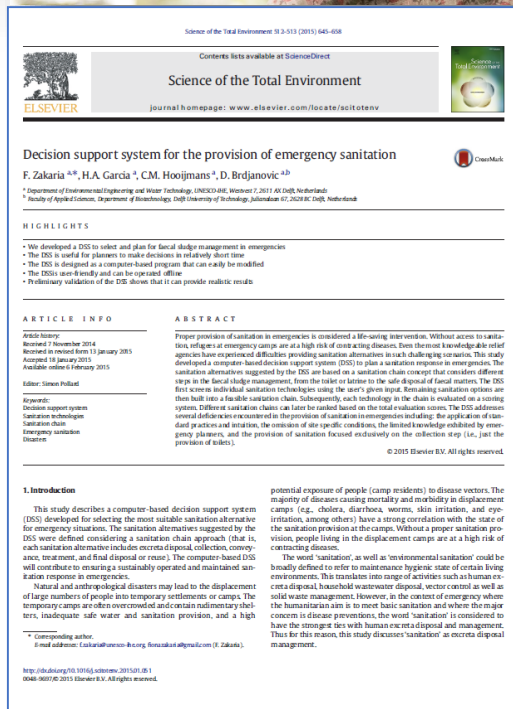
Locations: Vietnam, Australia, Sri Lanka, USA
Contact: Roshanka Ranasinghe (r.ranasinghe@un-ihe.org)
Partners: Delft University of Technology, Deltares

Locations: The Netherlands, worldwide
Contact: Martin Mulenga (m.mulenga@un-ihe.org)
Partner: Bill & Melinda Gates Foundation

PhD research: Rethinking faecal sludge management in emergency setting



Fiona Zakaria
(Indonesia)



PhD Research: Novel concepts and technologies for faecal sludge management in emergency situations



**Peter Matuku Mawioo
(Kenya)**

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Journal homepage: www.elsevier.com/locate/scitotenv

Evaluation of a microwave based reactor for the treatment of blackwater sludge

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^a Department of Environmental Engineering and Water Technology, UNESCO-ISE Institute for Water Education, Wiersma 7, 2017 AS Delft, The Netherlands
^b Department of Biotechnology, Delft University of Technology, Julianalaan 67, 2628 XE Delft, The Netherlands

HIGHLIGHTS

- There is lack of fast and efficient faecal sludge treatment options in emergency.
- Microwave treatment is rapid and efficient in sludge volume and pathogen reduction.
- Power and contact time can be varied to reach diverse levels of sludge treatment.

GRAPHICAL ABSTRACT

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ABSTRACT

A laboratory scale microwave (MW) unit was applied to treat fresh blackwater sludge that represented faecal sludge (FS) produced at heavily used toilet facilities. The sludge was exposed to MW irradiation at different power levels and for various durations. Variables such as sludge volume and pathogen reduction were observed. The results demonstrated that the MW is a rapid and efficient technology that can reduce the sludge volume by over 70% in these experimental conditions. The concentration of bacterial pathogenic indicator *E. coli* also decreased to below the analytical detection limit. Furthermore, the results indicated that the MW operational conditions including radiation power and contact time can be varied to achieve the desired sludge volume and pathogen reduction. MW technology can be further explored for the potential scaling-up as an option for rapid treatment of FS from intensively used sanitation facilities such as in emergency situations.

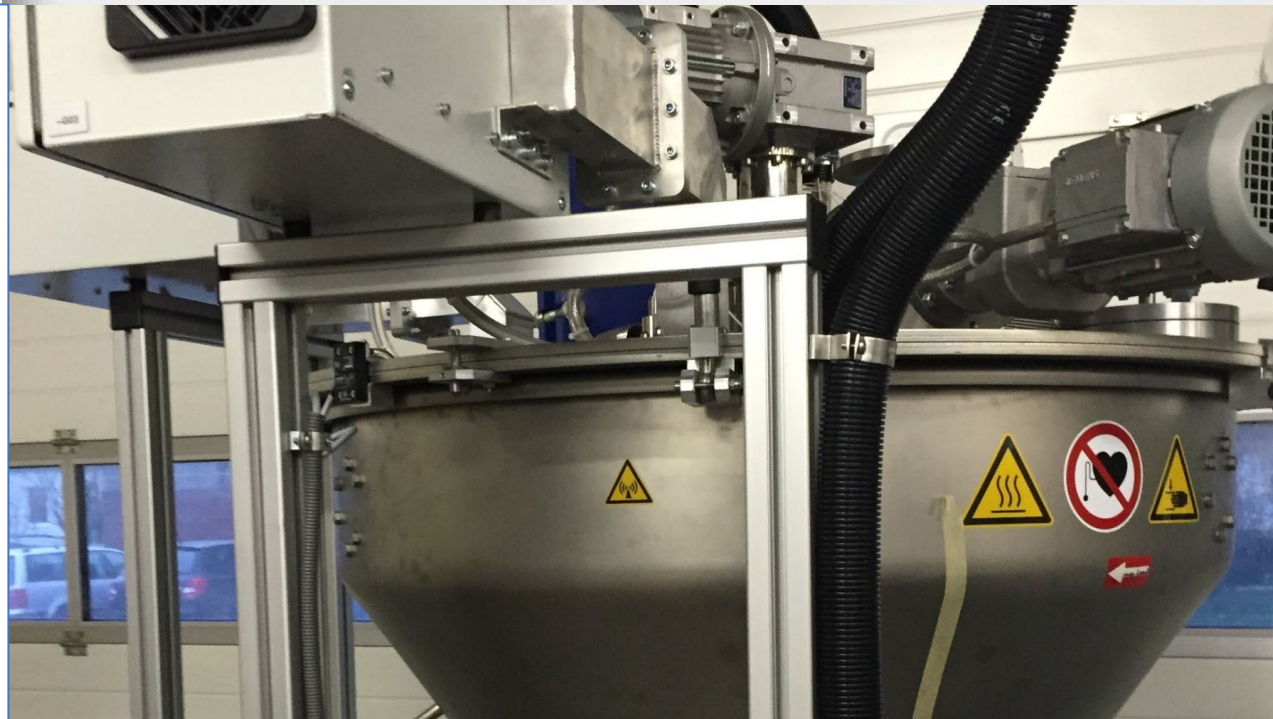
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1. Introduction

accumulation of fresh faecal sludge (FS) which should be frequently and safely disposed. Rapid accumulation rates result in the generation of large volumes of FS which can create a significant challenge for FS management especially during its transportation and disposal. The situation can be worsened by the generation of such huge amounts of FS in a facility with limited disposal possibilities. Furthermore, if the availability of land is inadequate for local disposal, the FS may need to be hauled

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MSc Research and education



Summer course WASH in Emergencies

UNESCO-IHE, Delft, The Netherlands | July 27-31, 2015

OBJECTIVE

The aim of this course is to provide guidance to prepare for deployment to emergency responses in a WASH role. This training is focused on planning and management of emergencies. It is a non-technical course on WASH in Emergencies to ensure common understanding in the interdisciplinary humanitarian action.

FOR WHOM?

The course is addressed to water, sanitation and hygiene professionals who are interested in international humanitarian responses. Previous experience in international humanitarian response is preferred.

LEARNING OBJECTIVES

The participants will:

- Receive an orientation on actual humanitarian contexts
- Understand mandates, priorities and objectives of different organizations involved in humanitarian responses
- Get oriented on the specific business processes, rules and procedures

COURSE STRUCTURE

The training is designed as a simulation. Participants will be exposed to real-world situations and will have the opportunity to practice the new knowledge and skills, learn from other's experiences in real emergencies and share own experiences. The course also features an evening programme. The course is a product of a unique collaboration between three UN institutions: UNICEF, UNHCR and UNESCO-IHE.

COURSE CONTENT

The course covers the following topics:

- The general context, the interdisciplinary connections, and the scope of WASH in emergencies
- Coordination principles, tools and skills
- Overview of UNICEF and UNHCR as organizations, their mandates, their commitments and priorities in emergencies
- Overview of the international legal framework, code of conduct and guiding principles of humanitarian action
- Principles and tools of risk management, contingency planning and disaster preparedness
- Resource management and mobilization, business processes, rules and procedures
- Standards applied by UNICEF, UNHCR and global cluster
- Acquisition, management and use of information for decision making, monitoring and reporting
- Emergency planning and management
- Facilitation, communication and management skills

PARTICIPANTS

The course is designed for a maximum of 32 participants. The minimum number of participants is 15.

FEE

€925 excluding accommodation, travel and visa costs
For UNESCO-IHE students this course is free of charge.

ECTS

1

CONTACT

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t.hooijmans@unesco-ihe.org

FACILITATORS

The course will be facilitated by WASH Emergency Specialists from UNICEF and UNHCR.



Andrew Parker,
an Australian from far North Queensland, has over 15 years'

experience in water and sanitation and has worked in Australia, UK, USA, Kenya, Indonesia, Haiti, Zimbabwe, Uganda, Pakistan, Rwanda, South Sudan, Jordan, Lebanon, Papua New Guinea, Philippines, Sierra Leone, Sudan. He is currently the primary advisor in UNICEF New York Headquarters on humanitarian action within the water, sanitation and hygiene (WASH) sector where he provides guidance and support to UNICEF staff in over 100 countries and represents UNICEF within the Inter Agency Standing Committee Global WASH Cluster.



Dominique Porteau
(MSc in Public Health engineering), a French national,

has over 20 years of experience in water and sanitation and in the humanitarian sector. He worked with UN agencies and international non-governmental NGOs in Africa, Asia and Middle East. In addition to his technical experience, he has also occupied senior management positions (Programme Coordinator and Country Representative) for ACF and Oxfam. He worked for UNHCR as Senior WASH officer based in Geneva and he is currently Global WASH cluster coordinator (UNICEF), focusing on the coordination of emergency response.



Murray Burt
(BEng, MSc, MICE) is a chartered civil and environmental

engineer with twenty years' experience within commercial engineering consultancies, governmental and non-governmental organisations in Africa, Asia and Pacific. He is currently working for UNHCR as the Global Senior WASH Officer, leading the UNHCR WASH team and overseeing delivery of Water, Sanitation and Hygiene (WASH) services to refugees throughout the world.



For more information and application visit www.unesco-ihe.org/emergency-wash



Linking Humanitarian and Development WASH sectors in a Protracted Crisis

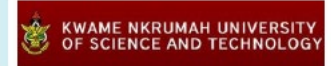
Case Study: Transition of WASH Cluster in West Bank, Palestine

Andrés Cabrera Flamini

MSc Thesis WM-WSM.16-27
Student Number: 45997
March 2016



Translation: The PWA organized a workshop between the government and NGOs to discuss the collaboration in water sector projects. *First WASH Cluster meeting in 2016, after the transition was rolled out.

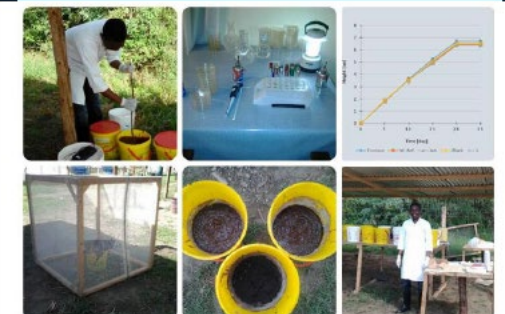


INVESTIGATION OF THE EFFECTIVENESS OF ADDITIVES IN ENHANCING STABILISATION AND SANITISATION OF FAECAL SLUDGE IN EMERGENCY SITUATIONS

Marcos Amos Zindoga

MSc Thesis UWS-SE-Kumasi 2016-18

April 2016



Rohingya crisis Cox's Bazar 2018



Faecal sludge treatment: advice on technologies and analytical methods

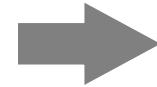
Cox's Bazar 2019-2020



Faecal sludge management course

IHE – UNICEF Cooperation Framework

- Enhance the capacity of WASH professionals to address public and environmental health risks as part of humanitarian WASH responses
- Consolidate a predictable pool of competent and skilled WASH professionals that can be mobilized to respond in emergencies



GPDP in Humanitarian WASH



Being inclusive with the humanitarian sector



ICRC



GPDP in Humanitarian WASH

Target: WASH and/or humanitarian professionals early/mid-career who will take on coordination or technical leadership roles

Structure: 4 online courses (20 ECTS / 560 study hour)

Launch: Q1 of 2021, first cohort graduates 2021/22

GPDP in Humanitarian WASH

Modules:

1. Governance in Humanitarian Contexts
2. Public and Environmental Health in Humanitarian Contexts
3. Water and Sanitation in Urban Humanitarian Contexts
4. Building Resilient Systems in Fragile Contexts

Cross cutting topics:

- localisation,
- accountability,
- inclusive response,
- gender and protection

Q&A; Participants?