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Compendium of Sanitation Technologies in Emergencies



Multi Agency Publication

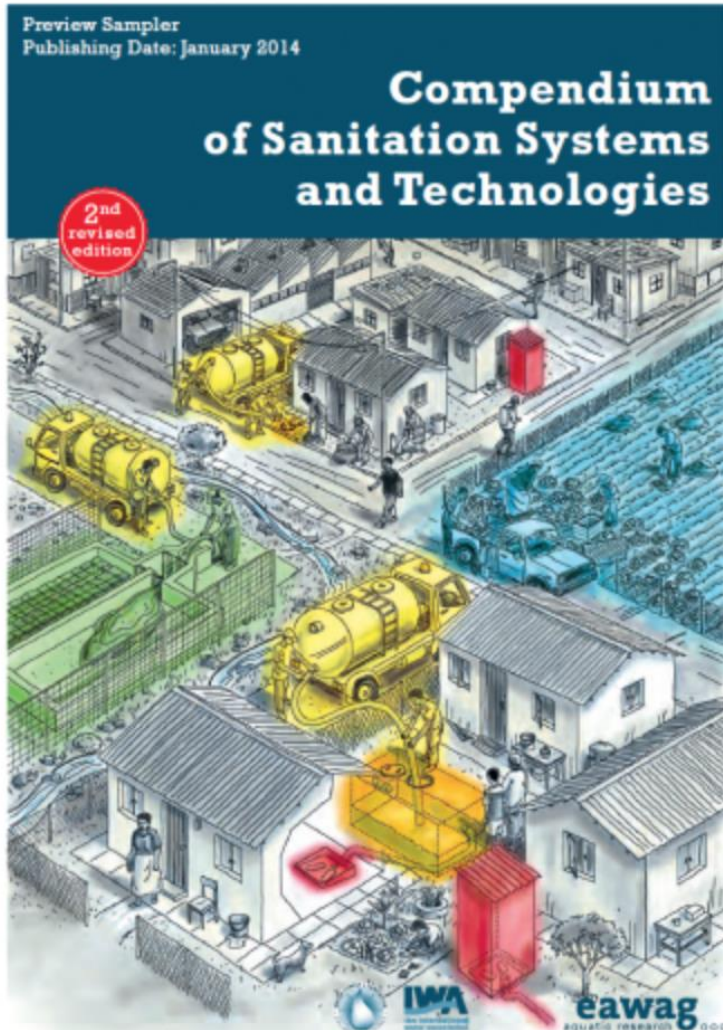


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and capacity
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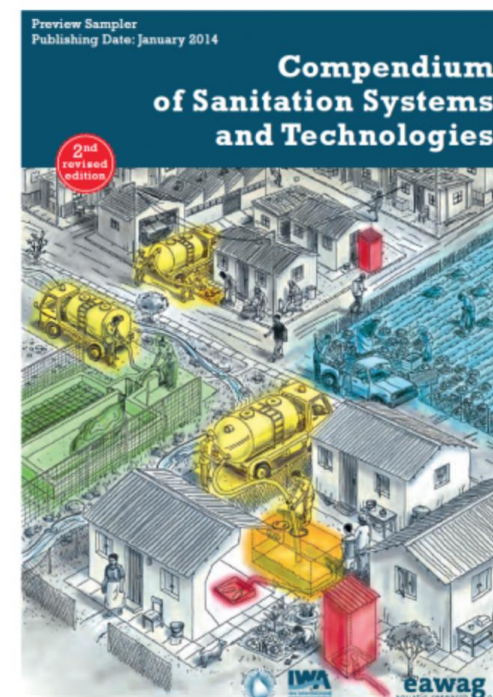
Background: The “Eawag Compendium”



- One of the key SuSanA publications on sanitation hardware systems and technologies
- Innovative in terms of:
- Disaggregation of existing technologies into their functional components (user interface, collection, transport, treatment, reuse and safe disposal)
- Focus on the entire sanitation service chain
- Providing clarity on terms and vocabulary used for sanitation technologies and involved products

- Currently **no up-to-date compilation** of sanitation technologies for emergency settings available
- **Lots of recent developments in the sector** particularly on FSM
- Existing EmerSan publications with **limited/no focus on entire sanitation service chain**
- Humanitarian WASH – by its very nature – **doesn't focus much on sustainability** but primarily on life saving measures
- In recent years humanitarians had to deal **increasingly with LRRD issues, longer-term protracted crisis and urban contexts** with an increased need to also take sustainability aspects into account

- Expert peer-reviewed **systematic emergency sanitation hardware overview** that covers the entire sanitation service chain
- **Humanitarian counterpart** to the existing Eawag “*Compendium of Sanitation Systems and Technologies*”
- Mainly **capacity development** tool
- Partly a **decision support tool** referring to key decision criteria and cross cutting issues that need to be considered



Intro

- Structure and use
- Terminology
- Emergency scenarios & implications for sanitation infra
- Sphere WASH Minimum Standards

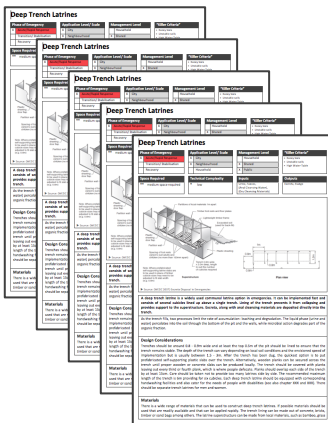
Key Criteria

- Phase of emergency
- Management Level
- Space
- Technical complexity
- Inputs/Outputs
- Design Considerations
- Materials
- Applicability
- Operation & maintenance
- Costs
- Software considerations

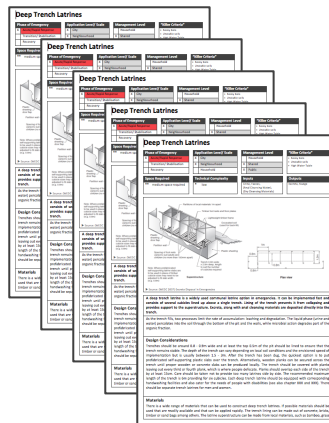
Cross-Cutting Issues

- Inclusive design
- Gender sensitive design
- User interface & preferences
- Dry and water-based systems
- Handwashing facilities
- Menstrual hygiene management
- HP and community mobilisation
- Business & management models
- Rehabilitation of existing infrastructure
- Institutional environment
- Hand-over & decommissioning
- Environmental protection
- Reuse & link with agriculture
- Resilience & Preparedness
- Durability

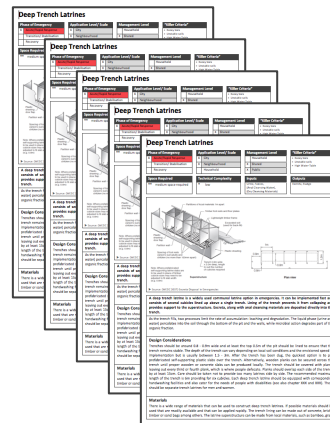
User Interface



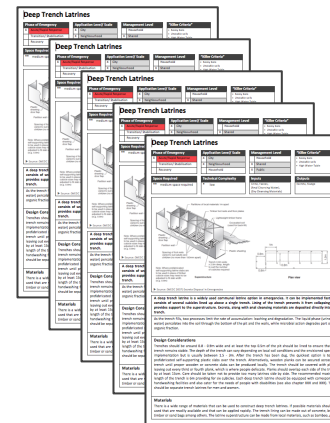
Onsite Storage & Treatment



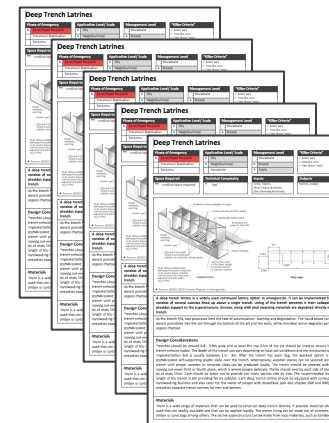
Conveyance



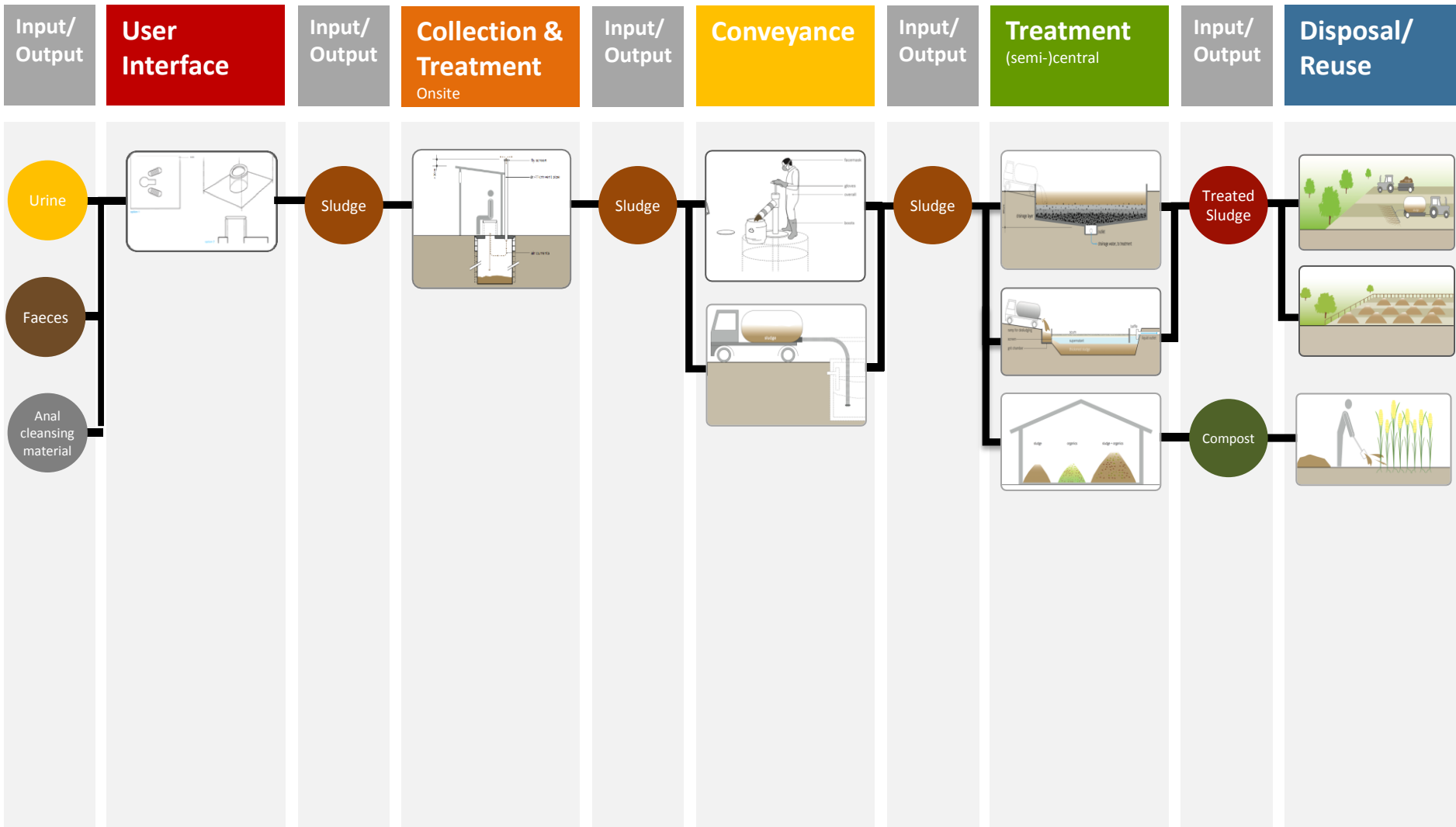
Treatment



Disposal/ Reuse

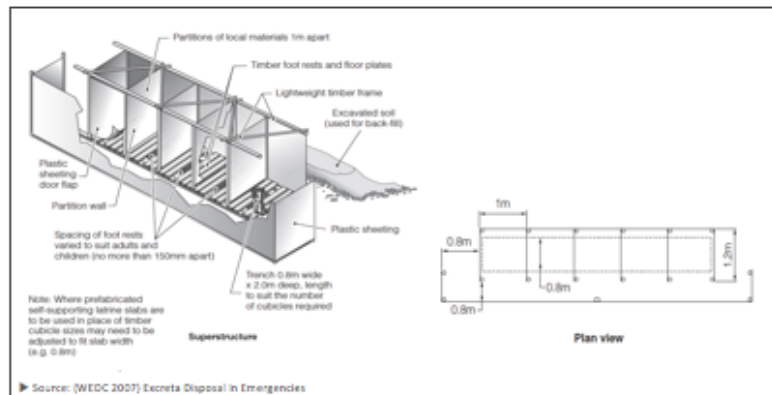


1. Introduction: Draft Outline



Deep Trench Latrines

Phase of Emergency	Application Level/ Scale	Management Level	*Killer Criteria*
X Acute/Rapid Response	X City	Household	<ul style="list-style-type: none"> Rocky Soils Unstable soils High Water Table
Transition/ Stabilisation	X Neighbourhood	X Shared	
Recovery	Household	X Public	
Space Required	Technical Complexity	Inputs	Outputs
** medium space required	• low	Urine, Faeces, (Anal Cleansing Water), (Dry Cleansing Materials)	Excreta, Sludge



A deep trench latrine is a widely used communal latrine option in emergencies. It can be implemented fast and consists of several cubicles lined up above a single trench. Lining of the trench prevents it from collapsing and provides support to the superstructure. Excreta, along with anal cleansing materials are deposited directly into the trench.

As the trench fills, two processes limit the rate of accumulation: leaching and degradation. The liquid phase (urine and water) percolates into the soil through the bottom of the pit and the walls, while microbial action degrades part of the organic fraction.

Design Considerations

Trenches should be around 0.8 - 0.9m wide and at least the top 0.5m of the pit should be lined to ensure that the trench remains stable. The depth of the trench can vary depending on local soil conditions and the envisioned speed of implementation but is usually between 1.5 - 3m. After the trench has been dug, the quickest option is to put prefabricated self-supporting plastic slabs over the trench. Alternatively, wooden planks can be secured across the trench until proper wooden or concrete slabs can be produced locally. The trench should be covered with planks leaving out every third or fourth plank, which is where people defecate. Planks should overlap each side of the trench by at least 15cm. Care should be taken not to provide too many latrines side by side. The recommended maximum length of the trench is 6m providing for six cubicles. Each deep trench latrine should be equipped with corresponding handwashing facilities and also cater for the needs of people with disabilities (see also chapter XXX and XXX). There should be separate trench latrines for men and women.

Materials

There is a wide range of materials that can be used to construct deep trench latrines. If possible materials should be used that are readily available and that can be applied rapidly. The trench lining can be made out of concrete, bricks, timber or sand bags among others. The latrine superstructure can be made from local materials, such as bamboo, grass

- Emergency Phase
- Application Level
- Management Level
- Killer Criteria
- Space required
- Technical complexity
- Inputs/ Outputs

- Simple Drawing

- Short description
- Key design considerations
- Materials needed
- Applicability
- Operation and Maintenance
- Costs
- Software considerations
- Strength
- Weaknesses
- Key resources



Aug. 2016 Kick-off meeting at SWWW

Sept. 2016 Establishment of advisory & peer reviewing group

Dec. 2016 Development of outline & tech-sheet format

Dec. 2016 SuSanA 10 Year Anniversary

Aug. 2017 Presentation of first draft at SWWW 2017

Mar. 2018 Launch at Global WASH Cluster Meeting (Germany tbc)

- **Sounding Board**
 - Mainly via SuSanA forum and SuSanA WG 08 (Emergency WASH)
- Potential to make it a **living document** by linking individual technology sheets to respective sections in the **SuSanA forum and flickr** galleries (using a QR code)
- **We are still looking for co-authors/resource persons for specific technologies ...and potential peer-reviewers!!!**

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Thank You

