



SSWM Toolbox

***Linking up Sustainable Sanitation, Water
Management & Agriculture***

User Manual

***Note: The SSWM
Toolbox works
best with Firefox
webbrowser!***

***Use these buttons
to navigate!***





What would you like to do?

- Know the general functions of the website [Navigation](#)
- Learn more about the concept behind the SSWM Toolbox [Concept](#)
- Get some help in understanding where you could start in your situation [Understand your System](#)
- Learn step-by-step how to proceed when you want to introduce a new measure or plan for a new improved water management [Planning & Process Tools](#)
- Find individual tools and technologies to improve water management and sanitation in your area [Implementation Tools](#)
- Get more background information on water and sanitation [Background](#)
- Learn how you can use this toolbox as a trainer [Train-the-Trainers](#)
- Learn about the open source concept of this toolbox [Disclaimer](#)
- Learn about the partners of the toolbox..... [Partners](#)





*The toolbox
contains five
main sections*

The general structure

*... and a bottom
bar with some
further
information*



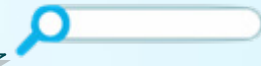


- Implementation Tools
- Introduction
- Water Sources
- Water Purification
- Water Distribution**
- Water Use
- Wastewater Collection
- Wastewater Treatment
- Reuse and Recycling

... the “breadcrumbs” in this list tell you where you are. You can also use them to navigate.

... you can use the sidebar to navigate.

The search function helps you to find information fast.



General navigation



Some topics come with ready-to-use presentations.

UDDT



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Executive Summary

Dehydration toilets (UDDTs) are simple, low-cost, and low-maintenance toilets that make use of desiccation (dehydration) processes for human excreta. Urine-diversion toilets (UDDTs) collect urine and feces as separate liquids (i.e. urine and anal cleansing water, if applicable) from the faeces to keep the faeces as dry as possible. Adding wood ash, lime, sawdust, or other dry materials to the faeces helps in lowering the moisture content, which enhances pathogen die-off. Urine is rich in nutrients and can be used as fertilizer. Faeces from UDDTs can be used as soil amendment for agriculture. Using them as soil amendment for agriculture is possible if the desiccation (dehydration) processes for human excreta. Adding wood ash, lime, sawdust, or other dry materials to the excreta is the mixture of urine and faeces that is not mixed with water. If such toilets prevail in a community, anal cleansing water must be diverted (e.g. into a washbowl) for practical reasons.

Urine is collected in containers for direct use, storage, further processing (desiccation, struvite production, etc.). Hygienised urine can be used at small or at large scale, or locally discharged by infiltration into the soil (e.g. evapotranspiration bed). Faeces collected in UDDTs can either be dehydrated (storage and dehydration) or composted (co-composting small-scale or large scale) before they are used as soil amendment.

... in the "tools sections" you can use the filter to reduce the selection.

Words in italic and underlined are glossary entries. Hover over them and an explanation in a yellow box will pop up.



Too much choice? Reduce your selection with the filter: ⓘ

Show only tools that have mainly been implemented in:

- urban areas rural areas
- dry areas wet areas
- households community

Show only tools that:

- are complex are simple
- need large social change need little social change

Related Topics

Concept
 What is sustainable sanitation and water management? How are they linked to agriculture? Learn more on the basics of SSWM:

[Concept Introduction](#)





Implementation Tools
Introduction

Water Sources

Water Purification

Water Distribution

Water Use

Wastewater Collection

Wastewater Treatment

Reuse and Recovery



Double-vault urine diversion dehydration toilet, Vietnamese village, Bhutan. Source: WAFLER

In-page navigation

Links to other articles in the toolbox are blue

Clicking on a picture will enlarge it.

Find advantages & disadvantages and further readings at the end.

There are two distinct types of UDDTs: double-vault UDDTs and single-vault UDDTs. In order to produce a finished *compost*-like material (desiccated material), the former ones are designed to provide two compartments: one for storage and drying or *secondary treatment* (e.g. *co-composting* [small-scale](#) or [large scale](#), etc.) have to be planned for. In general, UDDTs are built entirely above ground to provide for easy access to the processing chambers, which are a solid structure. The floor level of the processing chamber should be at least 10 cm above ground so that heavy rains do not flood it (WINBLAD et al. 2004).

Note that in some countries UDDTs are also used as [composting toilets](#). This is a urine diversion dehydration toilet in slightly different design.



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submit

Advantages

Disadvantages

Further Readings



GTZ (Editor) (2009): [Urine diversion components. Overview of Urine Diversion Components such as Waterless Urinals, Urine Diversion Toilets, Urine Storage and Reuse Systems](#). Eschborn: German Agency for Technical Cooperation (GTZ) GmbH.

The publication explains the purposes of urine diversion, its benefits and challenges, possibilities of urine treatment and reuse in agriculture. It provides an overview on design and operational aspects for equipment needed, such as waterless urinals and urine diversion toilets. An appendix with a worldwide listing of suppliers for waterless urinals and urine diversion toilet pedestals and squatting pans is also available.





The concept answers the following questions:

- How does water travel the earth, and how nutrients?
- What is sustainable sanitation, and what is integrated water resources management?
- How can these loops and approaches be linked up and considered on a local level?





“Understand your System” helps you to analyse your water and sanitation problems in your own area:

- How does your local water management and sanitation system look like?
- What problems are there with water management, and which ones with sanitation? How does agriculture fit in?
- Where can you find tools and approaches that help you in your situation?





“Planning and Process Tools” gives you an overview of the planning process of a water or sanitation intervention :

- How do you carry out a participatory planning and implementation process to improve your local water and sanitation situation?
- What are appropriate methods and strategies for different situations and stakeholders?
















“Implementation tools” presents the concrete measures and tools to improve your situation:

- Measures to optimise water management and sanitation and make it more sustainable.
- It contains both technical (Hardware) as well as economic, political and social instruments (Software).
- Seven overarching themes include a large number of measures: water sources, purification, transport, use, wastewater collection & treatment as well as reuse and recharge.

Find Software (soft skills) to the left...

Software 			Hardware		
Creating an Enabling Environment			Water Distribution Networks		
					
Creating Policies and a Legal Framework ...	Building an Institutional Framework (WD)	Bundling and Unbundling of Functions (WD...)	Water Distribution Overview	Network Types	Dimensioning
					
Strengthening Enforcement Bodies (WD)	Decentralisation (WD)	Public Private Partnerships (WD)	Pumping Stations		

Find Hardware (technical approaches and tools) to the right...





The “Background” section contains information to complement your knowledge and understanding:

- Further information on subjects linked to SSWM such as environmental issues, economy, health & hygiene, agricultural aspects, social and gender issues etc.





The “Train the Trainers” section tells you how you can use the SSWM Toolbox in your own trainings:

- A specific module for trainers with dedicated resources on how to carry out trainings and capacity development courses based on the SSWM Toolbox.





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Disclaimer

The contents of the SSWM Toolbox reflect the opinions of the respective authors and not necessarily the official opinion of the funding or supporting partner organisations.

Depending on the initial situations and respective local circumstances, there is no guarantee that single measures described in the toolbox will make the local water and sanitation system more sustainable. The main aim of the SSWM Toolbox is to be a reference tool to provide ideas for improving the local water and sanitation situation in a sustainable manner. Results depend largely on the respective situation and the implementation and combination of the measures described. An in-depth analysis of respective advantages and disadvantages and the suitability of the measure is necessary in every single case. We do not assume any responsibility for and make no warranty with respect to the results that may be obtained from the use of the information provided.





Partners

SSWM is an initiative supported by:


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