

## Tool 4 – Summary – Organic Waste Management – Assessment and Improvement

Organic waste management is an important component of SWM systems. Organics often account for more than half of the waste generation. This amount would need to be collected and treated separately for a sustainable waste management system. However, it is typically not the initial priority in humanitarian contexts to focus on separate organic waste management when ensuring the collection and disposal of waste is more crucial for health protection. Once this initial need is, however, covered, organic waste management can be initiated to limit the need for disposal and to increase material circularity. Organic waste management can also promote livelihoods by creating jobs, generating income, and producing valuable products for communities.

### Description

Organic waste management is the process of collecting and treating organic waste separately. In humanitarian contexts, managing organics separately is especially important for long-term waste management strategies, as space for disposal is often a challenge, thereby reducing disposal needs through the valorisation of some waste. Organics disposed of at a disposal site are also responsible for greenhouse gas emissions, particularly methane gas emissions worldwide. Organic waste management can also support livelihood, create jobs and generate useful products for the community. Organic waste management begins with source segregation to enhance purity, which in turn impacts storage, collection, treatment and final product quality. Refer to the [Compendium - Waste Separation \(pp. 34-37\)](#) for more information on source segregation and understand its importance. Multiple options are available for treating organics. More information on technology options and guidance about composting, vermicomposting, anaerobic digestion, black soldier fly and making fuel from biomass technologies is available in the [Compendium - Treatment and Recycling \(pp. 72-89\)](#).

The assessment of organic waste management provides an initial overview of the current system, followed by an evaluation of the infrastructure, design, and operations, as well as key service planning elements and governance. A technology evaluation tool is also provided to evaluate feedstock suitability and estimate outputs from composting, anaerobic digestion and black soldier fly technologies.

### Steps for the assessment and improvement of organic waste management:

#### 1. Plan and prepare the assessment (1-2 days)

- a. Engage with key stakeholders who can provide information, contribute to the assessment, and support implementation during the assessment and improvement process, as well as beyond. These stakeholders may include current service providers, local government representatives, informal waste pickers, planners, camp managers, and WASH promoters. Empowering stakeholders from the outset ensures their ownership of the process, strengthens local capacity, and facilitates a smoother transition when humanitarian actors phase out their operations.
- b. Gather any secondary information on the SWM system in the area of interest.
- c. Prepare yourself and key staff who will conduct the assessment using the proposed additional resources below.

#### 2. Gain an overview of the current organic waste management system (1 day)

- a. Use **Tool 4.1 – Overview of Organic Waste Management** to gain an overview of the current organic waste management system.

#### 3. Evaluate the organic waste management system (1-3 days)

- a. Conduct field observations regarding the different elements of the organics management chain.
- b. Use **Tool 4.2 – Evaluation and Improvement of Organic Waste Management** to evaluate the organic waste management system: use **Table T 4.2 A** to evaluate the infrastructure, design, and operations for organics management. Along with these physical aspects, **Table T 4.2 B** guides you to evaluate key service planning elements and governance.
- c. Use the **Tool 4.3 – Technology Evaluation Tool (TET)** to conduct a rapid assessment of the suitability of your feedstock mix for the current treatment of organic waste.
- d. Look at the options for possible improvement in the **Tool 4.2**.

#### 4. Analyse and process the evaluation's results (1-2 days)

- a. Evaluate the feasibility of implementing improvement measures with the available resources you have. Use **Tool 8 – Cost Evaluation**.
- b. Prepare a list of the key improvements to implement.

#### 5. Plan for implementation (2-3 days)

- a. Prepare the details of the improvements you have selected and allocate resources.
- b. Plan a timeline for the implementation.

#### 6. Implement improvements (over weeks with follow-up monitoring and adjustments)

- a. Train relevant staff on new operations and measures to be implemented.
- b. Implement the changes in the organic waste management system.
- c. Collect data and monitor the changes made, adjust if necessary.
- d. Consider redoing an assessment of the organic waste management system in the future to implement further improvements then.

*Time requirements are a rough indication and will depend on the complexity of your system.*

### Resources

**Tool 4.1 – Overview of Organic Waste Management**

**Tool 4.2 – Evaluation and Improvement of Organic Waste Management**

**Tool 4.3 – Technology Evaluation Tool (TET)**

**Tool 8 – Cost Evaluation**

The assessment and improvement of organic waste management considers the entire SWM service chain and connects to the following most relevant chapters of the Compendium:

- [\*\*Waste Separation \(pp. 34-37\)\*\*](#)
- [\*\*Storage \(pp. 42-51\)\*\*](#)
- [\*\*Collection and Transport \(pp. 54-71\)\*\*](#)
- [\*\*Treatment and Recycling \(pp. 72-89\)\*\*](#)
  - [\*\*T.1 Composting \(pp. 80-81\)\*\*](#)
  - [\*\*T.2 Vermicomposting \(pp. 82-83\)\*\*](#)
  - [\*\*T.3 Anaerobic Digestion \(pp. 84-85\)\*\*](#)
  - [\*\*T.4 Black Soldier Fly \(BSF\) Waste Processing \(pp. 86-87\)\*\*](#)
  - [\*\*T.5 Making Fuel from Biomass \(pp. 88-89\)\*\*](#)
- [\*\*Use and Disposal \(pp. 96-119\)\*\*](#)

### Additional resources

Ewers, L., Gensch, R., Hayman, S., Krähenbühl, M., Kucharski, M., Machado, A., Mertenat, A., Salem, F., Tosi Robinson, D., Ubbiali, S., Zurbrügg, C. (2025): Compendium of Solid Waste Management in Humanitarian Contexts. German WASH Network (GWN), Swiss Federal Institute of Aquatic Science and Technology (Eawag), Global WASH Cluster (GWC), International Federation of the Red Cross and Red Crescent Societies (IFRC), Sustainable Sanitation Alliance (SuSanA). Berlin. Germany. ISBN: 978-3-906484-81-5. [\*\*PDF\*\*](#)

Zabaleta I., Mertenat A., Scholten L. and Zurbrügg C. (2020). Selecting Organic Waste Treatment Technologies. SOWATT. Eawag: Swiss Federal Institute of Aquatic Science and Technology, Dübendorf, Switzerland. [\*\*PDF\*\*](#)

Gensch, R., Ferron, S., Sandison, P., Bindel, A., Coerver, A., Cottafavi, L., Deniel, K., Ewers, L., Friedrich, M., Harter, M., Hoffmann, O., Lloyd, A., Machado, A., Shrinivasan, S., Vallis, S. (2022): Compendium of Hygiene Promotion in Emergencies. German WASH Network (GWN), Global WASH Cluster (GWC), Sustainable Sanitation Alliance (SuSanA) and International Federation of the Red Cross and Red Crescent Societies (IFRC). Berlin. Germany. [\*\*PDF\*\*](#). Especially: [\*\*Social and Behaviour Change\*\*](#)