

Tool 8 – Summary – Cost Evaluation

Understanding and accounting for all the costs of the SWM system is a crucial step in evaluating and ensuring the financial sustainability of the service. This simple evaluation tool helps practitioners account for all costs associated with managing waste, including both capital and operational expenses.

Description

The costs of SWM are not only incurred during service provision (storage, collection, treatment, and recovery, disposal) but also include costs for administration, planning, monitoring, as well as education and communication. The cost for solid waste management is often measured as a cost per ton of waste managed [kg/ton], which is particularly important as a key indicator of financial performance and can be used for benchmarking, monitoring, and planning purposes.

This tool is an Excel-based document that allows users to systematically evaluate the cost of solid waste management, accounting for all associated costs. Typical costs for solid waste management include capital and operational expenditures:

- **Capital costs**
 - Infrastructure capital costs shown as yearly depreciation cost: Linear depreciation is to divide the capital cost by the projected lifetime of the asset to obtain the yearly capital cost.
 - For infrastructure and installations, the capital cost includes:
 - Land cost
 - Design and engineering costs
 - Construction or acquisition costs
 - Legal fees and costs to obtain permits
 - Equipment (machinery and vehicles)
 - Financing costs: the yearly interest rate and amortisation on loans.
- **Operational costs:**
 - Personnel: salary, social benefits, insurances, etc.
 - Equipment and materials: personal protective equipment, IT, tools, divers, etc.
 - Operation and maintenance: fuel, insurance, preventive and corrective maintenance, etc.
 - Utilities and rent: water, electricity, internet, rent, etc.
 - Health promotion, community engagement and behaviour change, etc.

This list includes main cost categories but is not exhaustive; one should consider and include all costs related to waste management in the cost evaluation.

Steps for the cost evaluation:

1. **Engage with relevant stakeholders (1-2 days)**
 - a. Engage with key stakeholders who can provide information and contribute to the cost evaluation. 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.
 - b. As cost data might not be readily available, collaboration with these key stakeholders in the following steps is important to assess the costs as precisely as possible.

2. **Obtain an overview of the SWM system (3-4 days)**
 - a. Gain a good understanding of how the SWM system functions. For guidance, it is possible to use the first part of the assessment tools for:
 - Collection and transport (**Tool 2.1**)
 - Disposal (**Tool 3.1**)
 - Organic waste management (**Tool 4.1**)
 - Recyclable waste management (**Tool 5.1**)
 - Self-management (**Tool 6.1**)
3. **Evaluate the capital and operational costs (2 days)**
 - a. Use the simple Excel cost evaluation tool (**Tool 8.1 – Cost Evaluation Tool**) to input the capital and operational costs of the SWM system.
 - b. Calculate financial indicators such as cost per ton of waste collected or managed. This can be used to compare the cost efficiency of this system with other SWM systems.
4. **Analyse possibilities of cost efficiency (1 day*)**
 - a. Identify the highest costs which might have the potential to be reduced with improvements in the SWM system.
 - b. If relevant, assess the SWM system to find potential improvements. Use the assessment and improvement tools (**Tool 2.2, Tool 3.2, Tool 4.2, Tool 5.2, Tool 6.2**)
5. **Plan for financial sustainability (over weeks and in the long run)**
 - a. Identify possible sources for financing the SWM system.
 - b. Using the balance sheets and financial statements, KPIs such as operating revenue and operating expenses can be calculated to show if the city's revenues cover its costs and if it is running within its means.
 - c. Engage local authorities to find joint solutions for the longer term
 - d. Evaluate if tariffs are collected and that the service is delivered accordingly. Consider revising the tariffs or implementing a new service tariff to partly cover the costs

Time requirements are a rough indication and will highly depend on the resources available for the assessment, as well as the size and complexity of your SWM system.

**If an in-depth assessment of the service is done, more time is required.*

Resources

Tool 8.1 – Cost Evaluation Tool

Additional resources

This book includes elements specific to the costs of collection and transport of waste: Manus Coffey and Adrian Coad, 2010. Collection of Municipal Solid Waste in Developing Countries. UN-Habitat. [PDF](#)

A complete and more complex tool for cost assessment and modelling of SWM: Eawag and Helvetas Bolivia (2023). Cost assessment and model tool. [PDF](#)

A more comprehensive guidance document for larger SWM systems in cities: International Bank for Reconstruction and Development - The World Bank, 2024. Municipal solid waste cost calculation technical guidelines for low- and middle-income countries. [PDF](#)