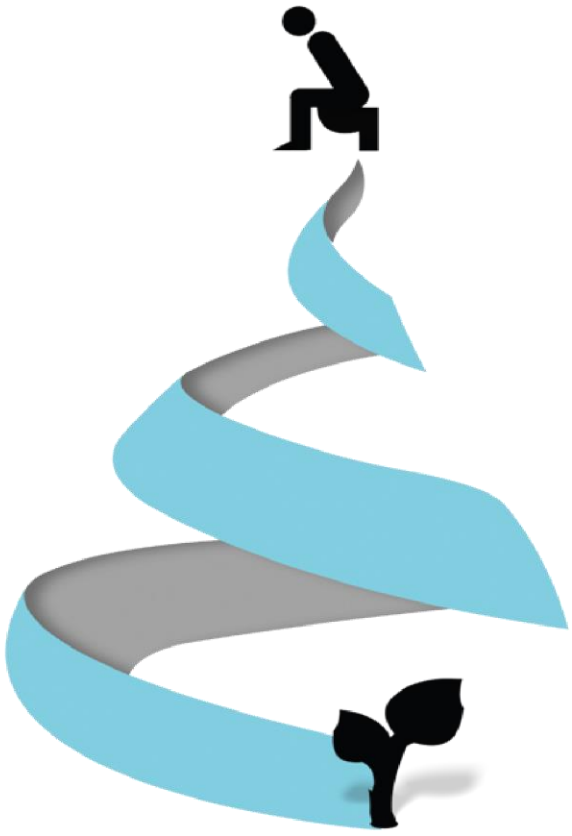
Sanitation Tool Compendium



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Sanitation Tool Compendium

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Contents

Overview of the Compendium

Sanitation, while a basic human right, is also a large and multifaceted sector that involves many different concepts and strategies. Often, projects related to sanitation are complex and require stakeholders to execute many different but crucial actions. Further, even existing projects need to be monitored to ensure that the need for sanitation is continuously met. Knowledge dissemination, capacity building and advocacy are also important elements to the sector. In order to tackle all the needs and requirements for planning, developing and maintaining sanitation projects, many tools have been developed that can provide much-needed support to the users. There exist a number of such tools but not enough knowledge about the same among practitioners, decision-makers, and other players in the sanitation value chain. This compendium aims at giving different stakeholders a brief understanding of the tools, their purpose(s) and how they can be applied.

What is this document about?

This document lists various tools that are available (mostly online or as a soft copy) for use in the sanitation sector. The tools can be of different forms (Excel-based, web-based), have different aims (financial assessment, capacity building) and employ different approaches to a similar goal (life-cycle cost, financial planning, etc.). The CSTEP Sanitation Tool Compendium aims to list all accessible and relevant tools in the sanitation sector, with focus on tools that take faecal sludge management (FSM) into consideration.

This document provides a list of sanitation tools; organisation of the same based on their specific features; and factsheets corresponding to every tool, which cover the objectives, descriptions, advantages, limitations and details of the tool.

When should I use it?

During different stages of any sanitation project, stakeholders may require assistance or information on a number of topics. Many tools available online can offer this support. It is suggested that users refer to this document during every stage of the project.

What tools have been included in this document?

CSTEP is in the process of including all accessible and relevant tools available. This list is neither complete nor static. It continues to grow as more tools are tested and verified. Often, access to tools may be lost over time, in which case a note will be made on the corresponding factsheet.

How can this compendium be used?

For users who wish to see a complete list of tools, a table (in alphabetical order) can be accessed here, which lists all the tools with some of their main features, which include aspect, target audience, type of user interface (U/I) and its relevance to FSM.

The tools can also be viewed based on their features. This compendium also organises the tools based on the following features:

- Aspect: Based on the different characteristics of FSM, as given by the FSM toolbox (www.fsmtoolbox.com), aspects broadly define the form of sanitation-related information a tool would provide. For example, a tool that allows users to define a type of technology and then conduct a financial assessment would come under the “financial” and “technology” categories. There are seven aspects: Institutional, Financial, Regulatory, Monitoring, Technology, Capacity Building and Advocacy.
- Target Audience: Most tools are aimed at one or more stakeholders. This feature allows users to see which tools will be helpful, based on their profile.

- Type: This is a broad classification of the tools based on their formats (web-based, mobile-based, and Excel-based) and features (AutoCAD, GPS, etc.).

A fact sheet for each tool is available, organised alphabetically. Users can access these factsheets from the different lists provided (via hyperlinks) or by scrolling through this document. (The factsheets begin here)

Is this list complete?

No. This is a growing list and there may be tools that have not yet been added. If you wish to see a particular tool in this list, please contact the sanitation team at CSTEP.

Note: Tools that do not have sufficient documented evidence will not be included in this compendium.

How can I add tools to this list?

Please contact the sanitation team at CSTEP and provide the information for the tool.

Part I:

Lists of the Sanitation Tools

Exhaustive List of Sanitation Tools

The following table provides an overview of all the tools in this compendium. This list is organised alphabetically.

For more information on each tool, please click on the respective tool name

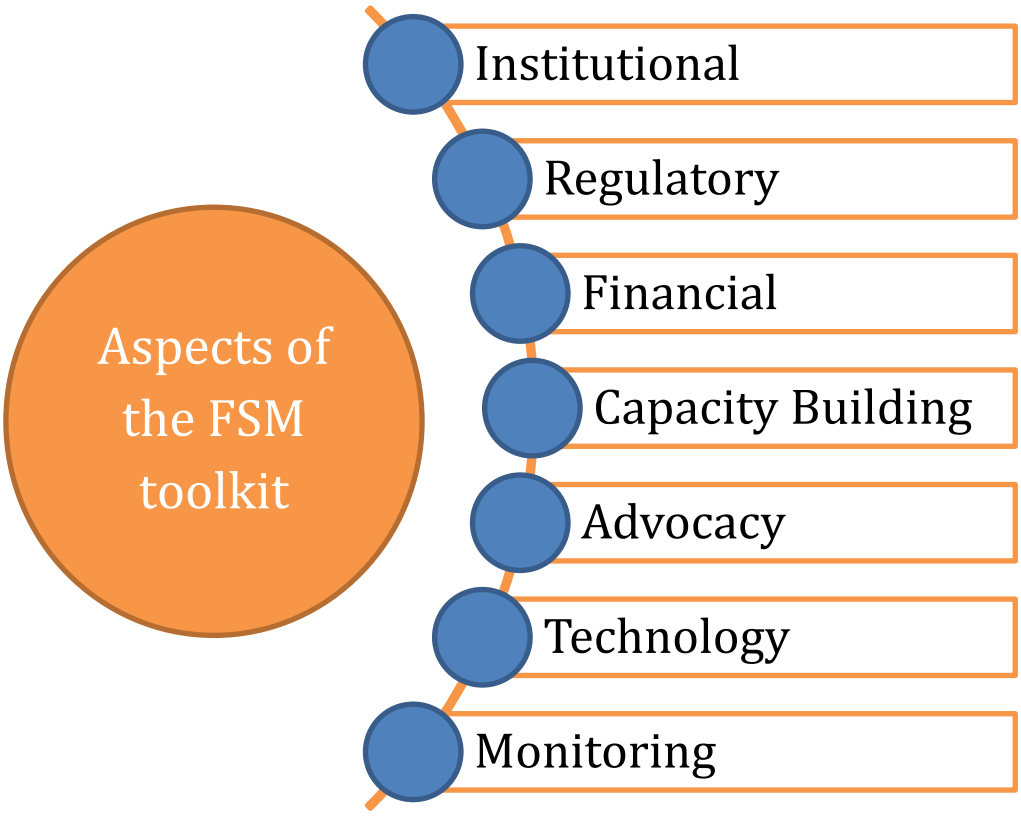
To view the tools organised by different features, please view the following chapters:

- Tools organised by Aspect
- Tools organised by Target Audience
- Tools organised by Type

Tool	Aspect	Target Audience	U/I	Is It FSM-Specific?
CLARA SPT	Institutional, Financial	Planners, developers	Excel	Yes
FSM Advocacy Tool	Monitoring, Advocacy	Planners, consultants, NGOs, CBOs	Manual	Yes
FSM Media	Capacity Building	Planners, consultants, donors	Excel	Yes
FSM Situational Assessment Tool	Regulatory, Capacity Building, Monitoring,	Planners, consultants, donors	Excel	Yes
FSM Technical and Financial Toolkit	Technology, Financial	Planners, consultants, utility managers, donors	Excel	Yes
Gender, Water and Sanitation: Case Studies on Best Practices	Advocacy, Capacity Building, Monitoring, Regulatory	NGOs, decision makers, ULBs	Report	No
Job Profile Matrix	Capacity Building	Planners, consultants	Excel	No
KPI Monitoring List	Monitoring	Planners, consultants, donors	Excel	Yes
Latrine Design and Construction Workshop	Technology	Planners, Local community	Workshop	Yes
Project Cycle Monitoring Tool	Monitoring	Planners, consultants	Excel	No
Regulatory and Institutional Setup Assessment Tool	Institutional, Regulatory	Planners, consultants	Web	Yes
Sanipath Rapid Assessment Tool	Institutional, Monitoring	ULBs	Web	No

Saniplan	Institutional, Regulatory, Financial, Technology	Planners, ULBs	Excel	No
SANITab	Technology	Planners, consultants, donors	Web, mobile	Yes
Sanitation Decision Support tool (AKVOPEDIA)	Technology	Planners, consultants, ULBs, donors, local community	Web	No
SANMAP	Technology	Planners, consultants, builders	Web	No
Shit Flow Diagram	Regulatory, Institutional, Advocacy, Technology	Planners, consultants, donors, local community	Web, report, Excel	Yes
Stakeholder Analysis Tool	Monitoring, Advocacy	Decision makers, planners	Excel	Yes
Sustainable Sanitation and Water Management Toolbox (SSWM)	Capacity Building, Technology	Planners, consultants, workers, local community	Web	No (but includes FSM)
WASHCost	Financial	Planners, ULBs, consultants	Web	No
Waterpoint (Sanitation) Mapper	Technology, Monitoring	Planners, consultants, ULBs, decision makers, local community	Web, Excel	No

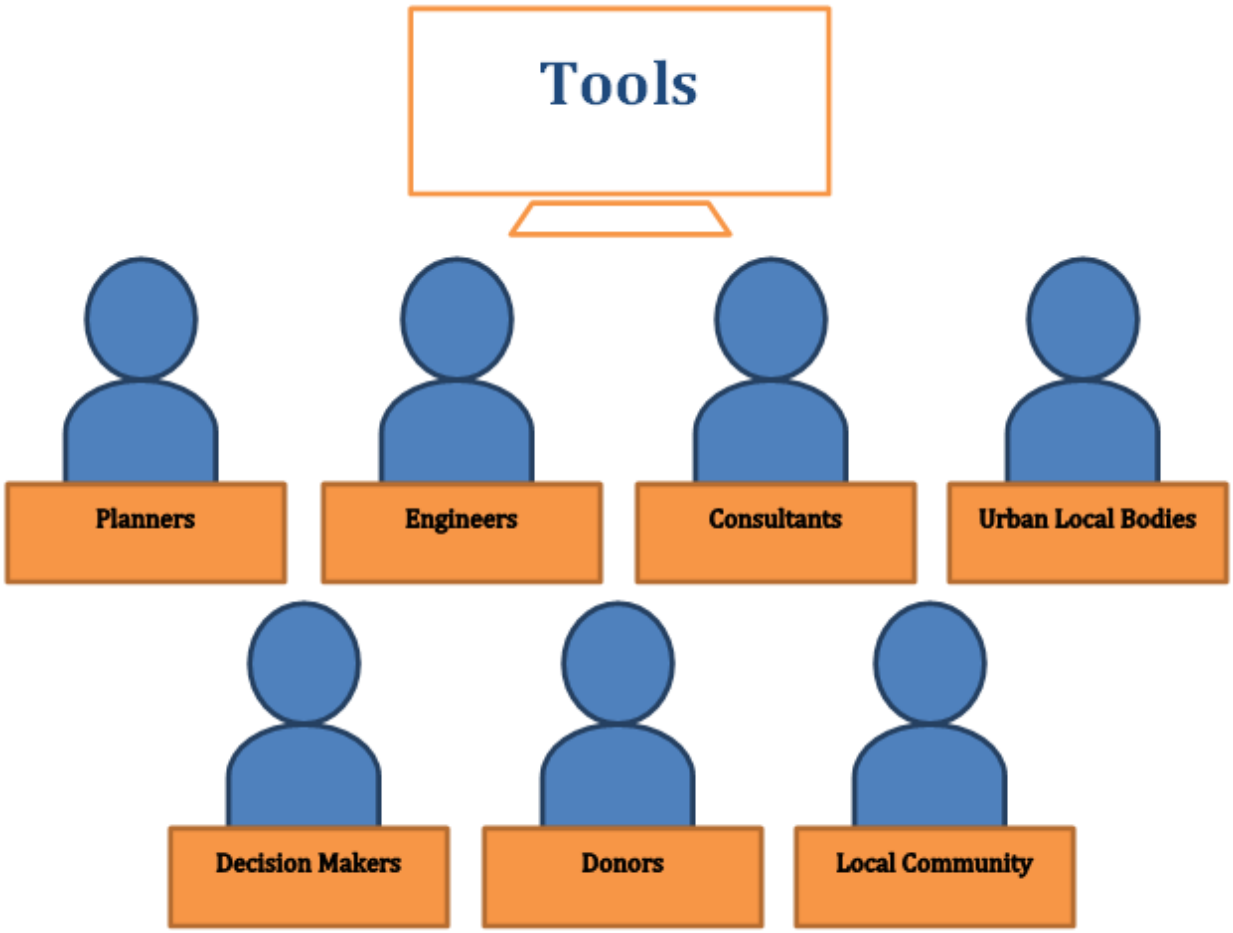
List of Tools Organised by Aspect



Aspect	Tool
Institutional	CLARA_SPT
	Regulatory and Institutional Setup Assessment Tool
	SaniPlan
	Shit Flow Diagram
Regulatory	FSM Situational Assessment Tool
	Regulatory and Institutional Setup Assessment Tool
	SaniPlan
	Shit Flow Diagram
Financial	FSM Technical and Financial Toolkit
	Gender, Water and Sanitation: Case Studies on Best Practices
	SaniPlan
	SANITECH

Capacity Building	FSM Situational Assessment Tool
	Gender, Water and Sanitation: Case Studies on Best Practices
	Job Profile Matrix
Advocacy	FSM Advocacy Tool
	FSM Situational Assessment Tool
	Gender, Water and Sanitation: Case Studies on Best Practices
	Shit Flow Diagram
	Stakeholder Analysis Tool
Technology	FSM Technical and Financial Toolkit
	Latrine Design and Construction Workshop
	SaniPlan
	SANITab
	Sanitation Decision Support tool (AKVOPEDIA)
	SANITECH
	SANMAP
	Shit Flow Diagram
	Waterpoint (Sanitation) Mapper
Monitoring	FSM Situational Assessment Tool
	Gender, Water and Sanitation: Case Studies on Best Practices
	Sanipath Rapid Assessment Tool
	Sustainable Sanitation and Water Management Toolbox (SSWM)
	Waterpoint (Sanitation) Mapper

List of Tools Organised by Target Audience

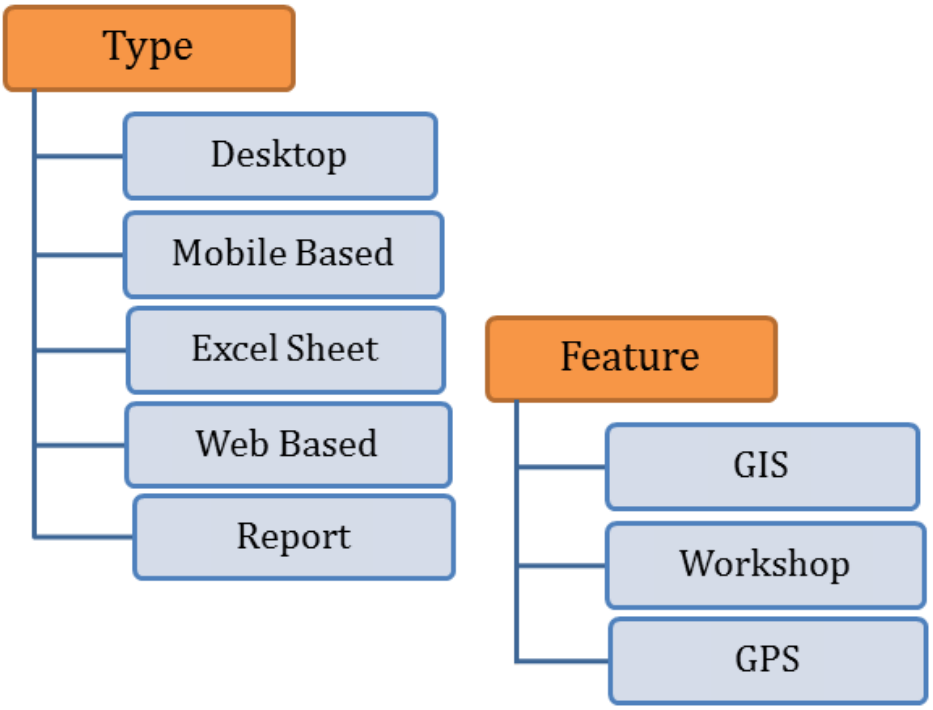


Target Audience	Tool
Planners	CLARA
	FSM Advocacy Tool
	FSM Media
	FSM Situational Assessment Tool
	FSM Technical and Financial Toolkit
	Job Profile Matrix
	KPI Monitoring List
	Latrine Design and Construction Workshop
	Project Cycle Monitoring Tool
	Regulatory and Institutional Setup Assessment Tool

	SaniPlan
	SANITab
	SANITECH
	SANMAP
	Shit Flow Diagram
	Stakeholder Analysis Tool
	Sustainable Sanitation and Water Management Toolbox (SSWM)
	WASHCost
	Waterpoint (Sanitation) Mapper
Engineers	FSM Technical and Financial Toolkit
Consultants	FSM Advocacy Tool
	FSM Media
	FSM Situational Assessment Tool
	FSM Technical and Financial Toolkit
	Job Profile Matrix
	KPI Monitoring List
	Project Cycle Monitoring Tool
	Regulatory and Institutional Setup Assessment Tool
	SANITECH
	SANMAP
	Shit Flow Diagram
	Sustainable Sanitation and Water Management Toolbox (SSWM)
	WASHCost
	Waterpoint (Sanitation) Mapper
Urban Local Bodies (ULBs)	Gender, Water and Sanitation: Case Studies on Best Practices
	Sanipath Rapid Assessment Tool
	SaniPlan
	SANITECH

	Shit Flow Diagram
	WASHCost
	Waterpoint (Sanitation) Mapper
Donors	FSM Media
	FSM Situational Assessment Tool
	FSM Technical and Financial Toolkit
	KPI Monitoring List
	Shit Flow Diagram
Decision Makers	Gender, Water and Sanitation: Case Studies on Best Practices
	SANITECH
	Shit Flow Diagram
	Stakeholder Analysis Tool
	Waterpoint (Sanitation) Mapper
Local Community	Gender, Water and Sanitation: Case Studies on Best Practices
	Latrine Design and Construction Workshop
	Shit Flow Diagram
	Sustainable Sanitation and Water Management Toolbox (SSWM)
	Waterpoint (Sanitation) Mapper

List of Tools Organised by Type



Type	Tool
Desktop	Sanipath Rapid Assessment Tool
Mobile-based	SANITab
Excel	CLARA
	FSM Media
	FSM Situational Assessment Tool
	FSM Technical and Financial Toolkit
	Job Profile Matrix
	KPI Monitoring List
	Project Cycle Monitoring Tool
	SaniPlan
	Shit Flow Diagram
	Stakeholder Analysis Tool
	Waterpoint (Sanitation) Mapper
Web-Based	Regulatory and Institutional Setup Assessment Tool

	Sanipath Rapid Assessment Tool
	Sanitation Decision Support tool (AKVOPEDIA)
	SANITECH
	SANMAP
	Sustainable Sanitation and Water Management Toolbox (SSWM)
	WASHCost
	Waterpoint (Sanitation) Mapper
Report	Gender, Water and Sanitation: Case Studies on Best Practices
	Shit Flow Diagram

Feature	Tool
GIS	SANITECH
	SANMAP
	Waterpoint (Sanitation) Mapper
Workshop	Latrine Design and Construction Workshop
GPS	SANITab

Part II:

Tool Factsheets

CLARA Simplified Planning Tool

Aspect	Target Audience	Type	Year	Organization
Institutional, Financial	Planners, developers	Excel	Since 2011	Boku (University of Natural Resources and Life Sciences, Vienna)

Objective

The CLARA Simplified Planning Tool (SPT) aims to support local planners to find the best solution for water supply and sanitation interventions.

Description

The SPT allows the comparison of different water supply and sanitation technologies at an early planning stage. It compares the full costs (investment, operation and maintenance and re-investment costs) of various alternatives of water supply and sanitation systems with minimal input from the user. The costing is based on Bill of Quantities (BoQs) and has been developed for different countries, keeping the variation of cost from nation to nation in mind. The CLARA SPT can thus be used to compare the real costs of various alternatives of water supply and sanitation systems (e.g., comparing water-borne and dry sanitation systems) in the pre-planning phase.

Advantages

- Full costs of different alternative system solutions can be compared.
- Resource-oriented water and sanitation systems are evaluated.
- Only a limited amount of input data is required.

Limitations

- Limited amount of technologies implemented.
- Simplifying assumptions resulting in uncertainties of costs.
- Cost functions based on BoQs and not real cost, due to lack of information/applied technologies.

Details

Available at http://clara.boku.ac.at/.

Financial and Technical Assessment Tool

Aspect	Target Audience	Type	Year	Organization
Technology, Financial	Planners, consultants, donors	Excel		AIT

Objective

This tool focuses on assessing the technical and financial viability of various options across the FSM chain, i.e., the collection, transport and treatment phases of FSM for a given situation.

Description

This tool performs three main functions—baseline assessment, technology selection and financial viability assessment. Under baseline assessment, the daily faecal sludge (FS) volume generated in a region is calculated for a period of 10 years along with the number of trucks of various sizes that would be required to collect and transport the same. The technology selection gives users different FSM technologies as options across the FSM service chain (along with their features and descriptions) on the basis of certain selection criteria. The best suited options are highlighted in green. Once the technologies are selected, users can view the financial assessment, which includes costing and financing, loan repayment, financial statements and a final summary.

Advantages

- Extensive reach, as it covers major steps from calculating FS in an area to loan repayment.
- Takes into account population growth and projects FS volume generated for 10 years.
- The financial viability of the technology choice can be assessed with multiple calculations by the tool such as debt service coverage ratio (DSCR), internal rate of return (IRR), net present value (NPV), loan coverage ratio (LCR), etc.
- Choice of technologies is based on local constraints that can be set by the user.

Limitations

- Certain issues might be faced due to the use of macros.
- The treatment options are predefined and limited. Most parts of the FSM value chain have five or fewer technology options (sludge treatment has seven) and more cannot be added.
- The cost values (given in USD) may not translate from country to country as the cost ranges may differ between countries (this difference is addressed by the CLARA SPT tool).

Details

It can be accessed from the fsmtoolbox website, www.fsmtoolbox.com, under “Strategy Design Option”.

FSM Advocacy Tool

Aspect	Target Audience	Type	Year	Organization
Monitoring, Advocacy	Planners, consultants, NGOs	Manual		AIT

Objective

The AIT FSM Advocacy Manual is a comprehensive advocacy guidebook, aimed at assisting all types of users in drawing up advocacy action plans or conducting advocacy activities with the ambition of improving FSM.

Description

To have a sustained and functioning FSM in place, it is important to involve all stakeholders in some capacity. It is therefore necessary to establish a common understanding of FSM and to inform people about the benefits and risks related to FSM. This manual provides assistance in FSM advocacy by guiding users through various topics such as

- Understanding Advocacy and FSM Advocacy
- Stakeholder Engagement
- FSM advocacy talking points (local, global: Asia/global)
- FSM events and advocacy, and participating in global events
- Human Rights Approach to FSM
- Dos and Don'ts in FSM Advocacy
- Media and FSM.

Advantages

- Simple to understand; uses easy language and has humorous representations.
- Detailed; gives information on the Dos and Don'ts of advocacy, case studies, etc.
- Guides through processes such as drafting press releases, conducting rating campaigns, holding public meetings, etc.

Limitations

- Not interactive; may not be able to offer tailored solutions.

Details

It can be downloaded from the fsmtoolbox website, www.fsmtoolbox.com.

FSM Media

Aspect	Target Audience	Type	Year	Organization
Capacity Building	Planners, consultants, donors	Excel		AIT

Objective

This tool aims to provide information on various forms of FSM-related media that can be accessed.

Description

Media is an effective tool for informing and sensitising different stakeholders. It can so assist in conveying and encouraging positive behavioural changes and good practices for existing and improved FSM systems. Although many media pieces are available online, they are usually scattered, especially since the source/creators vary. In order to increase the ease of accessibility to these resources, AIT has made a comprehensive list of available FSM media. This list is easily downloadable and is organised by type of media and purpose.

Advantages

- Easy to understand/use.
- Media organised on the basis of type (video, poster or infographic) and focus theme [Open Defecation (OD), sanitation, FSM, etc.].

Limitations

- As the information is not dynamic, it may not capture the increasing media exposure; the relevance of the tool may diminish between updates.

Details

It can be downloaded from the fsmtoolbox website, www.fsmtoolbox.com.

FSM Situational Assessment Tool

Aspect	Target Audience	Type	Year	Organization
Regulatory, Capacity Building, Monitoring	Consultants, planners, donors	Excel		AIT

Objective

The Situational Assessment Tool (SAT), from the AIT toolbox, aims at capturing the existing FSM practices in a city and allows users to plan better FSM by addressing the needs of "informed users".

Description

Situational Assessment is a thorough Excel-based tool, which obtains detailed information from users over the seven aspects of FSM, i.e., the Institutional, Regulatory, Financial, Technical, Advocacy, Capacity Building and Monitoring aspects, for the entire FSM chain, i.e., Containment, Emptying, Transportation, Treatment and Reuse. Apart from assessing the present conditions of FSM, this tool also helps in identifying problems in FSM and suggesting possible solutions for greater FSM in future. Users can also focus on specific components of the sanitation value chain. The tool also provides two "dashboards" where the users can see how each of the components performed (dashboard #1) and obtain an FSM service report that summarises the information collected by the tool (dashboard #2).

Advantages

- Easy to use. The user interfaces simple and intuitive; the questions are clear and unambiguous.
- Takes into account the limitations that may exist in areas without effective FSM-related policies in place. For example, for some queries, the tool allows users to forego detailed questions if they do not have that information.
- The tool provides a detailed assessment of the current situation and gives a colour-coded rating to each step of the value chain. These ratings range from inadequate to excellent.
- The dashboards give an overview of the sanitation value chain in terms of different FSM aspects.

Limitations

- All of the information is collected from the user—this may be problematic for those who do not have access to the data.
- For some questions, it is difficult to select multiple options (for example, under motorised transport, only one type can be selected, whereas a city might be serviced by multiple types of motorised transport).
- The SAT tool describes the current situation and cannot be used for planning future actions/improvements.

Details

It can be downloaded from the fsmtoolbox website, www.fsmtoolbox.com under "Define Need and Scope of Strategy".

Gender, Water and Sanitation: Case Studies on Best Practices

Aspect	Target Audience	Type	Year	Organization
Advocacy, Capacity Building, Monitoring, Regulatory	ULBs, decision makers, local community	Report	2006	

Objective

The Gender, Water and Sanitation: Case Studies on Best Practices Handbook documents case studies on best practices with the aim to (a) increase knowledge on the importance of taking a gender-based perspective on topics such as sanitation; (b) use a case study methodology for documenting gender mainstreaming best practices in diverse settings; and (c) train young researchers in gender and women empowerment.

Description

Gender mainstreaming (a strategy of assessing the gender-based implications of any public policy) is considered to be a key strategy to promote gender equality. Various tools have been developed in conjecture to gender mainstreaming. However, the performance of this concept in different situations is ill-documented. This handbook gives 15 case studies on gender mainstreaming in the water and sanitation sector in 14 countries from Asia, Latin America, Africa and the Middle East to provide information insight, information and evidence on how gender mainstreaming works in practice.

Advantages

- This tool can play a crucial role in assessing whether a project has taken a gender-sensitive approach.
- It also highlights the practices and programmes that can be introduced in a sanitation project.
- Every case study covers the challenges faced, the programmes/projects introduced, the outcomes of the programmes/projects, the key factors for success, the main obstacles, and the sustainability and transferability of the case study.
- The version of the tool and the manual available online cannot be operated and opened, respectively.

Limitations

- Only five case studies are related to sanitation.

Details

It can be accessed at
https://issuu.com/christinadianparmionova/docs/gender__water_and_sanitation._case_studies

Job Profile Matrix

Aspect	Target Audience	Type	Year	Organization
Capacity Building	Planners, consultants	Excel		AIT

Objective

This tool is a table of information that directs the routing and assessment of FSM job requirements. The Job Profile Matrix is one of the important tools used in the procurement process, or for employee's skill analysis.

Description

This tool describes the different job profiles that would be required in FSM. These profiles are divided into categories such as management and development, planning, procurement and communication, etc. Under each of these categories, the tool further defines different tasks and corresponding positions (e.g., under management and development, there are tasks such as financial management and policy development, which are associated to the roles of financial specialist and legal expert, respectively). For each of the positions, the following information is given: Education (Type of Degree, Specialisation), Knowledge/Qualification, Types of Experience, Years of Experience, Training and Job Description.

Advantages

- Important information on different job profiles is available as a concise, tabular list.

Limitations

- The tool does not appear to be complete as of now (section on Monitoring and Evaluation is yet to be filled).
- The list does not vary with parameters that would have an impact on the project (such as FSM technology, location, size of project, etc.).

Details

It can be accessed from the fsmtoolbox website, www.fsmtoolbox.com.

KPI Monitoring List

Aspect	Target Audience	Type	Year	Organization
Monitoring	Planners, consultants, donors	Excel		AIT

Objective

The objective of the tool is to provide a profound overview of relevant FSM indicators for continuously monitoring development and for compliance with planning values throughout the entire project progress.

Description

The tool provides the right set of Key Performance Indicators (KPIs) to monitor performance and the effect of implementation over time. The tool has the following sub-chapters: Economic framework, Private customers, Non-private customers, FS emptying, Maintenance and Treatment and end-use.

The chapters are defined by some guiding questions. Each performance indicator under these chapters is described with a unit, planned and real value, and a background motivation. Thus, with planned and real values, the project allows the user to keep track of the project. The tool also adapts to the required level of detailing in specific cases. The user has to go through each step as the KPIs are linked through calculation opportunities but not automatic calculations. The tool also helps the user to identify data gaps.

Advantages

- The tool provides indicators for all components of the FSM value chain.
- Provides possible data sources for the indicators.

Limitations

- The KPI Monitoring List lacks in social indicators.

Details

It can be accessed from the fsmtoolbox website, www.fsmtoolbox.com.

Latrine Design and Construction Workshop

Aspect	Target Audience	Type	Year	Organization
Technology, Financial	Planners, Local community	Workshop		CAWST

Objective

This workshop, organised by the Centre for Affordable Water and Sanitation Technology (CAWST), aims at teaching participants how to design latrines that are technically and environmentally appropriate for the local context, and that people would be interested in using.

Description

The workshop explores the relationship between sanitation, disease transmission and health. It gives participants experience selecting appropriate latrine parts, such as the toilet; slab; superstructure; and pit, tank or chamber. It also addresses technical and environmental topics such as positioning and sizing of latrine pits and modifying latrines to make them accessible for different user groups such as children, women and people with limited mobility. Aspects of hygiene such as hand washing and menstrual hygiene are also discussed. Participants also learn a framework for implementing a sustainable and successful project. Some of the workshop materials include:

- Guide to CAWST's Sanitation Resources – overview of all of CAWST's Sanitation materials
- Technical Briefs – concise summaries on siting
- Latrine Fact Sheets – brief summaries of different technologies
- Training Manual – lesson plans to facilitate several different workshop agendas.

The workshop has been delivered by CAWST in five countries (Cambodia, Kenya, Honduras, Laos PDR and Nigeria) and users have downloaded the materials from 75 countries, including India.

Details

It can be accessed on the CAWST website, http://resources.cawst.org/collection/latrine-design-and-construction-workshop_en.

Project Cycle Monitoring Tool

Aspect	Target Audience	Type	Year	Organization
Monitoring	Planners, consultants	Excel		AIT

Objective

The objective of the tool is to facilitate effective monitoring of the progress of the implementation of an FSM project.

Description

The tool monitors the implementation progress by providing a specific overview on the status of activities, deliverables, responsibilities and outputs. It is an Excel-based tool that provides a standardised format for the user to record regular observations and progress. The tool ensures that the user is made aware of all developments early enough to react to deviations from planning and improve project performance.

The tool is arranged in a series of phases, components and activities, specific to the FSM program (as described in the FSM toolbox), and for each activity, one or more outputs are presented (e.g., analysis, studies, stakeholder meetings, technical design reports, etc.). The status of products can be noted as the same as for the activities. The tool checks for the planned and actual dates of completion, status of quality control and approval through a colour coding mechanism. Thus, the information is receded accurately and in a more tangible way.

Advantages

- Extensive monitoring of project as it covers major stages from prefeasibility to quality assurance.

Limitations

- The list does not vary as per technology, location, size of project, etc.

Details

It can be accessed from the fsmtoolbox website, www.fsmtoolbox.com.

Regulatory and Institutional Setup Assessment Tool

Aspect	Target Audience	Type	Year	Organization
Institutional, Regulatory	Planners, consultants	Web-based		AIT

Objective

This is a web-based tool for identifying different entities that may be involved in FSM, creating an organisational chart, delineating the roles and responsibilities of the involved organisations/entities, and identifying gaps and overlaps that exist, in specific to FSM.

Description

At the outset of any FSM project, it is important to have a clear understanding of the current atmosphere in which the project will be developed. Knowledge of existing legal framework as well as well as the institutional structure can be instrumental in designing an effective strategy. The Regulatory and Institutional Setup Assessment tool is a web-based tool developed to allow users to document and analyse the regulations and institutional setup for any city.

The user is first required to define the country and city for the assessment, as well as the existing institutional levels. Under the regulatory tab, users can then list the legal framework available across the FSM service chain (from user interface to reuse). For every part of the value chain, there exists a checklist of possible regulations available. Users can select relevant choices and include information such as institutional level, name of institution and information on the corresponding document. The tool also allows users to assess the regulatory framework by summarising available and missing information across the value chain.

In the institutional setup tab, users can define the institutional structure by adding information on the organisational levels available in the city. A functional table is available alongside the organisational chart. Here, the users can see possible roles and responsibilities for the institutions added to the chart. Users can select relevant roles for each institution and provide appropriate information. Gaps in the roles can be viewed for each level along with useful resources for each gap.

Advantages

- Provides a good starting point for summarising the regulatory framework and the institutional setup in a specific location.
- The organisational chart can be customised, allowing the tool to be flexible and applicable across geographical boundaries.
- Assessment of the regulations and the gap analysis of institutional roles clearly define the deficit in the existing situation.
- The gap analysis provides many useful resources from different countries that users can view as examples.

Limitations

- The list of regulations (for each part of the value chain) and the list of roles are both static.
- The different levels that users can choose from are also static. The tool also does not define the levels clearly, which may cause confusion.

Details

It can be accessed from the fsmtoolbox website, www.fsmtoolbox.com, under “Strategic Design Option”.

Sanipath Rapid Assessment Tool

Aspect	Target Audience	Type	Year	Organization
Advocacy	Planners, consultants, community	Web-based		Center for Global Safe WASH, Rollins School of Public Health, Emory University

Objective

This tool aims to assess exposure to faecal contamination in urban, low-income settings, and to understand the relative risks due to different pathways.

Description

This tool guides users in collecting data on exposure to faecal contamination in low-income, urban neighbourhoods, and in amalgamating these data for decision-making. Data from simple environmental methods and behavioural surveys are combined to assess the relative exposure to faecal contamination. The relevant exposure pathways include open drains, drinking water, surface waters, public latrines, soils, wastewater-irrigated produce and floodwater. The tool automatically generates risk profiles for each pathway. The risk profiles show the users which pathways contribute the most risk and where interventions may have the highest impact on reducing exposure to faecal contamination. The tool has eight different modules—planning module, preliminary assessment module, survey module, environmental sampling module, risk characterisation module, statistical module, raw data module and report module.

These modules are:

- Successive and guide the user through the implementation of a rapid assessment.
- Dynamic and help to customise the tool for the user's context.

Advantages

- The tool helps in identifying the risk areas in urban and low-income neighbourhoods that are constantly lacking in sanitation facilities.
- The tool also provides awareness to the citizens about exposure to faecal contamination.

Limitations

- The tool is highly data-intensive.
- This tool is designed to highlight the current situation on the basis of exposure to faecal coliform. Users looking for a more comprehensive analysis should consider using another tool simultaneously (such as the SANITECH or Situational Assessment Tool).

Details

It can be accessed from website, http://sanipath.org/.

Saniplan

Aspect	Target Audience	Type	Year	Organization
Institutional, Regulatory, Financial, Technology	Planners, ULBs	Excel		CEPT University

Objective

Saniplan is a multiyear planning tool, which focuses on improving service performance across themes of access, equity, service levels and quality, efficiency and financial sustainability.

Description

Saniplan was developed to provide a structured approach to city-wide sanitation planning and assessment. It focuses on a combined service performance across the value chain. Users can identify key actions for improvement based on local interests. The model helps to prepare a financing plan for both capital and operating expenditure. Saniplan operates in three steps: first, it measures the current performance levels. Sector performance indicators give the basis to assess the current service performance. Next, a set of actions are identified and undertaken with the aim to improve the performance. Finally, the financial impacts of these actions along with phasing are developed as the financial plan.

Advantages

- Offers a very comprehensive financial planning, including funding and phrasing of the project for water supply, sanitation and solid waste management.
- Allows calculations based on improved scenarios (keeping key performance indicators in mind). Users can select indicators they wish to target and define certain parameters for the same.
- Can be adopted by various ULBs.

Limitations

- Very data-intensive and would require training of users.

Details

It can be downloaded from the PAS website, www.pas.org.in.

SANITab

Aspect	Target Audience	Type	Year	Organization
Technology	Planners, consultants, donors	Mobile, Web-based	2015	CEPT University

Objective

SANITab is a data-collection Android-based application that was developed under the PAS (Performance Assessment System) project to conduct household surveys in cities across India and build city-wide databases.

Description

Collecting household level data is a crucial but laborious process for any city. Usually the information is available at a ward level or city level and is often sourced to Census data, which are updated every 10 years. To conduct household surveys, the surveyors need to be trained at the task. Usually, the method of data collection is manual – which may be time-consuming and might slow down the surveyors. Further, these data would need to be collected and digitally recorded for easy accessibility. In light of the limitations posed by manual data collection, SANITab was created to collect sanitation-related information from any city. This application consists of different forms of surveys that users can select from, based on their use. Further, custom-made questionnaires can also be developed. The use of a tablet or a smartphone makes data collection quicker. SANITab also allows geo-tagging and photographing of households. This information is validated and uploaded on the website, from where it can be accessed as raw data as well as in the form of different analyses.

Advantages

- This tool can play a crucial role in accelerating the pace at which household data are collected.
- Geo-tagging allows household information to be available in a geospatial context, which can be useful for many tools (such as SANITECH or the AIT Logistics tool).
- The data collected are validated and are available in various forms for the users.
- SANITab controls login credentials by defining the roles and responsibilities of each user. This restriction in access will reduce the likelihood of data corruption.

Limitations

- Can only be used with Android OS.
- The surveyors would still require training in data collection. This tool mainly increases efficiency in storing information and making it available for use.

Details

It can be accessed from the fsmtoolbox website, www.fsmtoolbox.com, under “Define Need and Scope of Strategy”.

Sanitation Decision Support Tool (AKVOPEDIA)

Aspect	Target Audience	Type	Year	Organization
Technology	All stakeholders	Web-based	Since 2007	Akvo foundation

Objective

AKVOPEDIA is an open water and sanitation resource that aims to improve water and sanitation projects through knowledge exchange on smart and affordable technical solutions and effective approaches.

Description

AKVOPEDIA is a web-based, free-content, water and sanitation knowledge resource, which organises information on different sanitation technologies according to the part of the sanitation value chain they comes under. The articles provide an introduction to the water and sanitation technologies, financing, and the processes needed for project implementation and maintenance. It is written collaboratively by volunteers and specialists, mainly from the water and sanitation sector.

Advantages

- Easy to understand/use.
- Includes a repository of different technology options, segregated based on the position in the sanitation value chain.
- Offers a concise overview of technologies that outlines all salient features.
- Available in multiple languages.
- Written and edited by specialists as well as volunteers.

Limitations

- Does not give in-depth information. If users are looking for details on operation/maintenance, design specifications, etc., they would need to refer to sources that provide more information.
- Gives information on individual technologies only and not on how these technologies can be combined to form a system.

Details

Available at http://akvopedia.org/wiki/Sanitation_Portal.

SANITECH

Aspect	Target Audience	Type	Year	Organization
Technology	Decision makers, consultants, planners, local community	Web-based	2016	CSTEP

Objective

This tool is envisioned to provide stakeholders information and knowledge of existing and new technologies in a manner that allows them to compare options, assess cost/benefits and make informed decisions.

Description

SANITECH was designed as a decision-support tool that will help cities in India provide cost-effective and sustainable sanitation options for all, especially the urban poor, through an integrated framework for the assessment of different sanitation options. In this tool, users can view the current sanitation situation in a city or a ward. They can then generate a list of suitable systems appropriate to the selected area or create a system using technologies present in the tool database. If logged in, users can also make changes in the sanitation situations through specific actions ("Interventions"); observe the impact of these interventions; and compare different sets of these actions ("Scenarios") based on a set of indicators. Users can also design scenarios for use in Saniplan and export relevant data in the form of an Excel sheet.

Advantages

- This is an easy-to-use tool that does not require a large amount of data.
- It features a large and growing repository of systems and technologies.
- It allows users to consider different types of systems, including decentralised systems.
- It focuses on faecal sludge management (FSM).
- It gives information on cost, resource requirement, impact, etc., thus assisting in making an informed decision.

Limitations

- It does not go into depth in planning.
- All costs are estimated (based on literature review and expert opinion).
- Geospatial aspect has not been developed to full potential.

Details

It can be accessed at http://darpan.cstep.in/sanitation/. For a demo, log in with demo_user@demo.in (password: demo@123).

SANMAP

Aspect	Target Audience	Type	Year	Organization
Technology	Planners, consultants	Web-based		Water for people

Objective

SanMap.org is a website that hosts spatial data to help small-scale private sanitation businesses build business plans, choose appropriate technologies and deliver quality sanitation services to low-income urban areas.

Description

The lack of availability of spatial data can prove to be an obstacle for businesses that target specific areas spatially for designing and services. SANMAP was developed to provide data to support the private sector to provide services such as pit emptying and adequate latrine designs that are suitable for the urban context. This project aims to map specific criteria that impact the appropriate choice of technology and customer identification. Users can work on cities where GIS data have already been collected. Information available may include administrative divisions; geological and hydrogeological features such as water table, slope or soil type; income-based information (poor settlements), etc.

Advantages

- Free and user-friendly; can be used extensively by small businesses.
- Many layers available for different administrative divisions in a city.
- Data can be downloaded.

Limitations

- Data are currently limited to a few cities in various African countries. For more extensive use, more data need to be collected for other cities.

Details

Available at www.sanmap.org.

Shit Flow Diagram Toolkit

Aspect	Target Audience	Type	Year	Organization
Regulatory, Institutional, Advocacy, Technology	Planners, consultants, donors, local community	Excel-based, report, web-based	2015	GIZ, under SuSanA

Objective

The Shit Flow Diagram (SFD) toolkit was developed by the sustainable sanitation alliance (SuSanA) to provide urban areas the resources to design and interpret shit flow diagrams based on the experience gathered by SuSanA through developing SFDs for various cities and towns globally.

Description

In an urban context, especially for developing countries, it is often difficult to pinpoint the fate of the excreta produced as there might be different flows existing in the same geographical space. Further, many of such flows may be unsafe (in terms of quality) and may pose a threat to public health and environment. In rapidly expanding cities (especially in low- and middle-income countries) excreta management can be a growing challenge, requiring interventions at different scales and different levels to combat the risks posed by inadequate sanitation. An excreta flow diagram (also often described as shit flow diagram) is a tool to understand and visually represent how excreta physically flows through a city or town. It can also show whether the excreta is contained or not as it moves across the sanitation value chain. A SFD also provides information on the different fates of the excreta generate. The SFD toolkit by SuSanA provides a methodology and associated resources required by cities to develop their own SFDs. The toolkit includes a manual which outlines the methods of SFD data collection, an Excel file on Stakeholder Tracking, and Excel-based tool for creating a SFD and examples of SFDs and SFD-associated reports. SFDs provide an innovative way to engage city stakeholders that is both comprehensive and representative of the actual situation. They can also be used for advocacy.

Advantages

- Gives a detailed description of the two major methods of data collection (field-based and desk-based data collection).
- The toolkit is comprehensive; it tells users what a SFD is, what it looks like, how it can be created and what a report based on the SFD should look like. A stakeholder tracking tool is also provided to record information on different stakeholders and their interest and influence on the project.
- An SFD can be a useful visual input in sanitation-based projects for cities as they highlight the flow of excreta for which there is no infrastructure as well as any gaps in the existing infrastructure.
- SuSanA has created SFDs for many countries across the world which can be accessed through their website.

Limitations

- The Shit flow diagram tool is not intuitive and can be confusing for users. Some errors in using macros may also be faced.
- The Stakeholder tracking tool is similar to AIT's Stakeholder Analysis Tool, but lacks the choices in the criteria for influence/interest and the associated matrix.

Details

It can be accessed from the SuSanA website, http://sfd.susana.org/

Stakeholder Analysis Tool

Aspect	Target Audience	Type	Year	Organization
Monitoring, Advocacy	Planners, consultants	Excel		AIT

Objective

Stakeholder analysis allows users to compile a list of all possible stakeholders across different sectors such as government, international organisations, NGOs, facilitators, etc.

Description

The stakeholder analysis process is mainly used to identify and characterise stakeholders, and design a stakeholder management plan, which includes communication mechanisms for different groups of stakeholders. This tool is designed to ease this process for users by providing a list of potential stakeholders for FSM projects (grouped into various categories such as National, Regional/Municipal, Donors and International NGOs, etc.) from which relevant ones can be chosen. Users can then describe each stakeholder by their contact information, criteria for influence, influence on project outcome and criteria for interest. The criteria for influence and interest are given as checklists. Selecting one or more of these criteria rates a stakeholder as having "high" influence or interest, respectively. The tool then organises stakeholders into a matrix based on their influence and interest (into four categories: High Influence–High Interest, High Influence–Low Interest, Low Influence–High Interest and Low Influence–Low Interest). Suggestions for tools for stakeholder engagement are given for each quarter of the matrix.

Advantages

- This tool is simple and organises stakeholders into a table and a matrix, assisting in clear and intuitive representation of information.
- Offers a comprehensive list of stakeholders for users. More stakeholders can be added if needed.
- Allows analyses of stakeholders and describes them based on interest and influence.
- Different engagements for the stakeholder matrix provide direction for developing effective stakeholder engagement strategies.

Limitations

- The list of stakeholders is fixed and not tailored to different countries. Since the same ministries/organisations may not be applicable across countries, it might be difficult for users to adapt their information. For example, the Ministry of Urban Development is not listed in the tool, but may be an important stakeholder for Indian users. However, the tool does allow users to add stakeholders.
- The criteria for influence and interest are static lists and remain the same for all groups of stakeholders.
- Selecting any criterion for influence/interest will deem the corresponding stakeholder as having "high" influence/interest). There is no distinction between stakeholders with a singular criterion for influence/interest and those with multiple criteria. This definition of "high" influence/interest may be too simplistic.

Details

It can be downloaded from the fsmtoolbox website, www.fsmtoolbox.com, under "Strategic Design Options".

Sustainable Sanitation and Water Management

Aspect	Target Audience	Type	Year	Organization
Capacity Building, Technology	All stakeholders	Web-based		Seecon gmbh

Objective

The Sustainable Sanitation and Water Management Toolbox (SSWM) is an integrative web-based guidance resource for capacity development at the local level.

Description

The SSWM presents a holistic approach to global water and sanitation problems. The tool (available as a website) covers a plethora of concepts ranging from water and nutrient cycles to integrated water resource management and sustainable sanitation. Starting with these concepts to focusing on solutions for sustainable use, treatment and reuse of water resources at the local level, this tool provides useful knowledge on relevant issues and helps plan their approaches. Further, reading material on water-, wastewater- and fertiliser-related topics (such as technologies, sources, resource potential, etc.); process and planning tools; and software and technological approaches is available. Process and planning tools cover available approaches and methodologies under programming and planning frameworks, exploring, demand creation, decision-making, implementation and ensuring sustainability. Under implementation tools, users can find information on hardware and software tools on topics such as water sources, water purification, water distribution, water use, wastewater collection, wastewater treatment, reuse and recharge. The website also provides links to publications, articles and web links, case studies and training material.

Advantages

- Very useful as a starting point for sanitation-related information.
- Provides guidance across different steps in a FSM planning process.
- Comprehensive and detailed, covers many aspects of the water resource management issue.
- Articles on the website can also be downloaded as presentations.

Limitations

- Not focused on FSM, although provides important information on available technologies, strategies, etc.

Details

Available at www.sswm.info.

WASHCost

Aspect	Target Audience	Type	Year	Organization
Financial	Planners, consultants	Web-based		IRC

Objective

WASHCost aims at using the life-cycle cost approach to effectively budget, plan and evaluate the delivery of WASH (Water, Sanitation and Hygiene) services.

Description

In order to provide sustainable WASH services, it is important to consider the life-cycle cost of the service. WASHCost is an open-source tool that aims at allowing users to define a local situation and compare the financial sustainability of different WASH services. The tool can be used at two levels. The basic tool allows users to define some parameters within a limited range of choices or values, whereas the advanced tool (requiring registration and login) requires greater depth in information taken from the user.

The user data are then used to generate a summary report, which covers a set of performance indicators such as latrine technology, usage, environmental impact, etc., along with a distribution of expenditure (both capital and recurring) over time.

Advantages

- Simple U/I; instructions are clear and easy to follow.
- Can be used even in situations where detailed information is not available
- Presentation of information is easy to interpret.
- The summary reports can be saved online for future reference.

Limitations

- The advanced tool requires detailed information.
- The basic tool operates under assumptions based on tool usage in four countries.
- Limitations in permissible values and options/choices may affect the accuracy of information.

Details

The tool is available at www.washcost.ircwash.org/en/calculators/.

Waterpoint (Sanitation) Mapper

Aspect	Target Audience	Type	Year	Organization
Technology, Monitoring	Planners, consultants, ULBs, decision makers, local community	Excel, Web-based		WaterAid

Objective

The Waterpoint (Sanitation) Mapper is a decision-support and monitoring tool that allows the users to provide area-based and point-based mapping on sanitation-related information such as improved sanitation coverage at the village level, and the status of shared latrines in urban areas.

Description

Spatial data and imaging can be very useful when planning for a sanitation project. However, many applications that can be used for creating maps are expensive and require training of the users. The Waterpoint (Sanitation) Mapper allows the users to easily create certain types of maps (consisting of polygons or points), such as improved sanitation, open defecation, prevalence of child diarrhoea, safe disposal of child faeces, disability-inclusive facilities, village-level hygiene analysis (village maps) and improved sanitation coverage, people per latrine seat, hygiene analysis, menstrual hygiene facilities, faecal waste management and adequacy of payment (latrine maps). The data should be collected in the format given in the mapper. The output can be either in the form of a Google Earth map or a JPEG image.

Advantages

- Simple; requires minimal training.
- Can be used offline in the field without an internet connection (if Google Earth is downloaded by the user).
- It can generate a wide variety of different maps (as JPEGs or as Google Earth files) that can be used by local staff.
- It can be used for shape data as well as point data.

Limitations

- The Organization of the tool and the manual available online cannot be operated and opened, respectively.

Details

It can be downloaded from http://www.waterpointmapper.org/Sanitation.aspx.

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