Community-Led Urban Environmental Sanitation Planning: CLUES

Complete Guidelines for Decision-Makers with 30 Tools



WATER SUPPLY & SANITATION COLLABORATIVE COUNCIL

UN HABITAT
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Table of Contents

Acknowledgements 5
Abbreviations and Acronyms 5

Executive Summary 6

Introduction 9
Characteristics of the planning process 10
How to use these guidelines 11
Identifying an enabling environment 11

PART 1 Let's Plan! The 7 Planning Steps 15
Cross-Cutting Tasks 17
Step 1: Process Ignition and Demand Creation 19
Step 2: Launch of the Planning Process 23
Step 3: Detailed Assessment of the Current Situation 27
Step 4: Prioritisation of the Community Problems and Validation 31
Step 5: Identification of Service Options 33
Step 6: Development of an Action Plan 39
Step 7: Implementation of the Action Plan 43

PART 2 Creating an Enabling Environment 49
1. Government Support 50
2. The Legal and Regulatory Framework 51
3. Institutional Arrangements 54
4. Skills and Capacity 58
5. Financial Arrangements 61
6. Socio-Cultural Acceptance 65

PART 3 The Toolbox 67

Annex: The Bellagio Principles 99
References and Further Reading 100

Boxes

Box 1: Some key definitions 9
Box 2: Summary checklist for a preliminary assessment of the enabling environment 13
Box 3: Identifying community champions 19
Box 4: Project coordination committee 24
Box 5: Compendium of Sanitation Systems and Technologies 34
Box 6: Reality check 53
Box 7: Involving the private sector 57

About the publishers

Eawag-Sandec

The **Swiss Federal Institute of Aquatic Science and Technology (Eawag)** is a world-renowned aquatic research institute based near Zurich, Switzerland. The Department of Water and Sanitation in Developing Countries (Sandec) develops new water and environmental sanitation concepts and technologies with partner organisations worldwide, while making use of Eawag's multidisciplinary scientific and technological knowledge. [www.sandec.ch]

WSSCC

The **Water Supply and Sanitation Collaborative Council** is an international organisation that works to improve access to sustainable sanitation, hygiene and water for all people. It does so by enhancing collaboration among sector agencies and professionals who are working to provide sanitation to the 2.6 billion people without a clean, safe toilet, and the 884 million people without affordable, clean drinking water close at hand. WSSCC is part of the UN system and contributes to development through knowledge management, advocacy, communications, and the implementation of a sanitation financing facility. WSSCC supports coalitions in more than 30 countries, and has a broad membership base and a small Secretariat in Geneva, Switzerland. [www.wsscc.org]

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Abbreviations and Acronyms

BoQs	Bill of Quantities
CBO	Community-Based Organisation
CLTS	Community-Led Total Sanitation
CLUES	Community-Led Urban Environmental Sanitation
Eawag	Swiss Federal Institute of Aquatic Science and Technology
ESS	Environmental Sanitation Services
FGD	Focus Group Discussion
HCES	Household-Centred Environmental Sanitation
IWA	International Water Association
NCCR	Swiss National Centre of Competence in Research
NGO	Non-Governmental Organisation
O&M	Operation and Maintenance
PPP	Public-private partnerships
Sandec	Department of Water and Sanitation in Developing Countries (Eawag)
SDC	Swiss Agency for Development and Cooperation
UN-HABITAT	United Nations Human Settlements Programme
WSSCC	Water Supply and Sanitation Collaborative Council

From HCES to CLUES – the story behind these guidelines

This document is a further development of the Household-Centred Environmental Sanitation (HCES) provisional guidelines for decision-makers (Eawag, 2005). The HCES planning approach is based on the Bellagio Principles for sustainable sanitation (see Annex) and was conceived by the Environmental Sanitation Working Group of the Water Supply and Sanitation Collaborative Council (WSSCC). Intensive piloting and evaluation of the household-centred approach took place between 2006 and 2010 in Africa, Asia and Latin America, in 7 different urban and peri-urban sites.

This updated set of planning guidelines, called Community-Led Urban Environmental Sanitation (CLUES), is based on the lessons learned from piloting the HCES approach. The name change from HCES to CLUES highlights the importance of broad community involvement (beyond the household level) in the planning and decision-making processes. Although the name changed, the main characteristics stay the same: a multi-sector and multi-actor approach accounting for water supply, sanitation, solid waste management and storm drainage and emphasizing the participation of all stakeholders from an early stage in the planning process.

Executive summary

The Community-Led Urban Environmental Sanitation (CLUES) approach presents comprehensive guidelines for the planning and implementation of environmental sanitation infrastructure and services in disenfranchised urban and peri-urban communities. The planning approach builds on a framework which balances the needs of people with those of the environment to support human dignity and a healthy life. CLUES is a multi-sector and multi-actor approach accounting for water supply, sanitation, solid waste management and storm drainage. It emphasises the participation of all stakeholders from an early stage in the planning process.

This double page provides an overview of the CLUES approach with its three distinct elements:

- **7 planning steps**
- **3 cross-cutting tasks relevant throughout the entire planning process, and**
- **The enabling environment which is required for sustainable interventions**

Summary of the 7 planning steps



Step 1 Process Ignition and Demand Creation

The planning process begins with ignition and promotional activities. This step aims to sensitise the community to environmental sanitation and hygiene issues and to create momentum and a solid platform for community participation. After a participative community mapping exercise and the discussion of key concerns with the residents in a first community meeting, an agreement on action is formulated and a community task force is formed by previously identified community champions. (page 19)



Step 2 Launch of the Planning Process

In step 2 all key stakeholders formally come together to develop a common understanding of the environmental sanitation problems in the intervention area and agree on the process of how to address them. The launching workshop must be inclusive, well-structured and attract public attention. In step 2 stakeholders generate a protocol agreement, an agreement on the project boundaries and an agreement on the overall planning methodology and process. (page 23)



Step 3 Detailed Assessment of the Current Situation

In step 3 stakeholders compile information about the physical and socio-economic environment of the intervention area. This step is important because it provides necessary background information for all future planning steps. Outputs include a refined stakeholder analysis, baseline data, and a thorough assessment of the enabling environment and current levels of service provision. The main outcome of step 3 is a detailed status assessment report for the intervention area. (page 27)



Step 4 Prioritisation of the Community Problems and Validation

In step 4 stakeholders deliberate the findings and implications of the assessment report, and identify and prioritise the leading general and environmental sanitation problems in the community. The main outcomes of step 4 are the validated assessment report and an agreed-upon list of priority problems in the community. (page 31)



Step 5 Identification of Service Options

In step 5 the planning team, in consultation with environmental sanitation experts and key stakeholders, uses an informed choice approach to identify one or two environmental sanitation system options that are feasible for the intervention area and can be studied in greater detail. The community and the local authorities reach agreement based on an understanding of the management and financial implications of the selected systems. (page 33)



Step 6 Development of an Action Plan

In step 6 stakeholders develop local area action plans for the implementation of the environmental sanitation options selected in step 5. The action plans must be implementable by the community, the local authorities and the private sector. The main output of step 6 is a costed and funded action plan that follows time sensitive, output-based targets. Every action plan must contain an operation and maintenance management plan to ensure the correct functioning of the sanitation system. (page 39)



Step 7 Implementation of the Action Plan

As the goal of step 7 is to implement the CLUES action plan developed in step 6, this last step is not strictly speaking part of the planning process. Stakeholders translate the action plan into work packages which ultimately become contracts for implementing the service improvements. The final stage of step 7 is the implementation of the O&M management plan. (page 43)

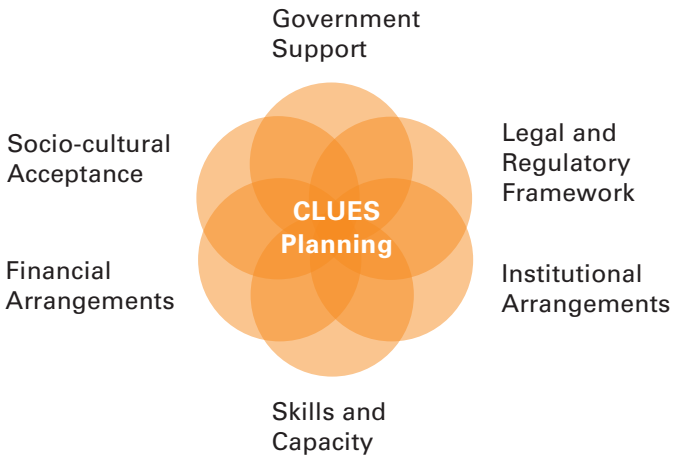
Cross-cutting tasks

There are 3 cross-cutting tasks which are relevant throughout the entire planning process: (page 17)

1. **Awareness Raising and Communication** are key to creating demand and raising people's abilities to make informed choices about the most appropriate systems and technologies.
2. **Capacity Development** aims to strengthen skills for process management and collaborative planning and skills like engineering, construction, operation and maintenance.
3. **Process Monitoring and Evaluation** allows one to identify and correct mistakes or imbalances or even to change the shape and direction of the project before it is too late.

The six elements of the enabling environment

The enabling environment and how it is understood is a key determinant for successful project interventions. The six elements that define an enabling environment need to be nurtured and pro-actively fostered to provide favourable conditions for environmental sanitation planning in challenging urban environments. (page 49)



Introduction

The lack of clean water and basic sanitation presents one of the most significant service delivery challenges related to poverty alleviation and sustainable development. Because access to services is so low, and the public health imperative is so urgent, a much stronger focus is needed on sustainably scaling up access to environmental sanitation services and infrastructure. The focus of this manual is on environmental sanitation, which consists of water supply, sanitation, storm drainage and solid waste management – all basic urban services which are key to clean and healthy urban environments. However, CLUES has a clear priority on urban sanitation planning for the entire sanitation value chain (toilet, storage, transport, treatment and disposal or re-use).

The goal of this manual is to enable urban communities and municipalities in low-income countries to plan and implement cost effective environmental sanitation services that employ appropriate technologies suited to user needs. Community-Led Urban Environmental Sanitation (CLUES) promotes a shift away from centralised conventional sewerage (but doesn't exclude it) towards offering a range of technology solutions for people living in poor and unplanned urban areas.

BOX 1 Some key definitions

Community-Led…

In this context, a community is defined as a group that perceives itself as having strong and lasting bonds, particularly when the group shares a geographic location[1]. One measure of community is regular participation by individuals in its activities. Community size can vary between a few hundred to tens of thousands of inhabitants. (Gottdiener and Budd, 2005). In the context of this approach "community-led" places emphasis on the special role that communities play in improving their habitat.

… Urban…

The focus of the CLUES approach is on service improvements in informal and unplanned urban or peri-urban settlements. UN-HABITAT defines a slum household as "...a group of individuals living under the same roof in an urban area who lack one or more of the following five conditions: durable housing, sufficient living area, access to improved water, access to sanitation and secure tenure" (UN-HABITAT, 2003).

… Environmental Sanitation

Though the definition of "sanitation" is often limited to human excreta, "environmental sanitation" includes sanitation, stormwater drainage and solid waste management. Water supply is addressed only in so far as it impacts on the above environmental sanitation services. Therefore, environmental sanitation planning calls for coordinated actions between these often disparate sectors (Eawag, 2005).

[1] A more dynamic vision of community that incorporates issues of solidarity and conflict, power and social structures is of course necessary in heterogeneous urban contexts.

This manual is a further development of the "HCES Provisional Guideline for Decision-Makers" (Eawag, 2005) and is based on four years of extensive field-level validation in seven sites around the world. These revised guidelines are different from the previous version in four ways:

1. Simpler to use, featuring only 7 planning steps (previously 10-step process);
2. Written in an easier and more accessible language which non-experts can also follow;
3. Features a complete toolbox with multiple "how-to-do-it" tools for each step of the process;
4. Special attention is given to environmental sanitation at the community level, especially to low-income communities where service improvements are a complex task.

This document has been developed to provide guidance for experts and professionals who work with peri-urban and urban neighbourhoods that are partially served or unserved in terms of environmental sanitation services. The structured 7-step process and the accompanying toolbox presented here should prove useful to local authorities, donor agencies, planners and NGOs dealing with infrastructure programming and service delivery, as well as non-experts, local NGOs and community-based organisations taking part in such a planning process.

Characteristics of the planning process

As pointed out in Part 2, an enabling environment is necessary to plan, implement and sustainably operate environmental sanitation services. Related to this enabling environment, certain special skills, sufficient time and sufficient funds are three important ingredients for a successful realisation of the CLUES planning process:

- **Skills needed**

The process leader who coordinates the CLUES planning approach will need planning skills, mediation and negotiation skills (e.g. to negotiate and mediate between diverging interests), and will have some knowledge in social sciences and environmental engineering. The CLUES approach requires skilled coordination between different departments and agencies such as municipal health departments, city utilities, municipal engineers as well as private sector operators. It also requires skills to understand, motivate and involve stakeholders. Before you start, make sure that you have a skilled moderator/facilitator who knows the community.

- **Time needed**

Previous experience has shown that the formal planning exercise (excluding implementation) can be conducted within 9-10 months. However, this assumes that the minimal requirements of an enabling environment discussed in Part 2 are already in place. Tricky issues that can lead to planning delays include unclear land tenure, conflicts between different stakeholders and vested interests or lack of sufficient funding.

- **Funds needed**

Experience shows that to carry out the first six planning steps, you would need at least US$ 15,000. This amount can be lower when dealing with smaller communities of less than 1000 residents. This includes workshop costs and remuneration for the process leader. The costs involved in step 7 will vary widely according to the actions to be taken in the implementation phase.

The seven steps of CLUES show that this planning process requires strong "people-focused" skills involving communication and negotiation. People-centred planning takes time, more so than conventional expert-led planning approaches, but it contributes to finding solutions which are better accepted by the key stakeholders and suited to the case-specific conditions. By rushing through the planning steps, you cannot expect to achieve the desired improvements. Investing time and money, not only into a careful accomplishment of the planning steps but also in the development of important skills and capacity, is critical to the achievement of sustainably implemented and operated systems, and well worth the extra time and efforts.

How to use these guidelines

The CLUES guidelines are geared towards the community level and are meant to complement city-wide infrastructure planning approaches such as the Sanitation 21 planning framework (IWA, 2006) or the Citywide Sanitation Strategy (ISSDP, 2010). Both of these "citywide" approaches seek to enhance synergies among the actors in sanitation development at a municipal level and aim to develop city-wide sanitation. For a more detailed discussion of the link between community level and city-wide approaches, see step 6.

PART 1 presents the 7-step planning approach. Each step links to hands-on tools explaining the details of how to go about it and includes an exemplary case study. Part 1 also mentions the necessary skills, timeframe and funding needed to carry out the planning approach.

PART 2 deals with the so-called "enabling environment", and is meant to assess and pro-actively foster favourable conditions for environmental sanitation planning in challenging urban environments. The enabling environment is a key determinant for successful project interventions.

PART 3 contains 30 practical tools which support the implementation of the CLUES approach. These vary from full documents to checklists and examples of workshop agendas. All tools are included on the accompanying USB Key or can be accessed in their latest version on the internet (www.sandec.ch or www.wsscc.org). Some of the tools can also be used for Part 2 (creating an enabling environment).
This document is meant to be used jointly with the Compendium of Sanitation Systems and Technologies (Tilley et al., 2008) which provides comprehensive information about the full range of sanitation technologies and is also included in the accompanying toolbox (tool T15).

Users of these guidelines should feel free to use them in the way they find best (e.g. by following only selected planning steps, or by working with the toolbox according to the needs in a specific situation). Users are encouraged to be inventive and evolve their own activities and tools in planning for better environmental sanitation.

Identifying an enabling environment

An "enabling environment" can be seen as the set of inter-related conditions that impact the potential to bring about sustained and effective change (adapted from World Bank, 2003). This includes political, legal, institutional, financial and economic, educational, technical and social conditions which encourage and support certain activities. An enabling environment is important for the success of any development investment; without it, the resources committed to bringing about change will be ineffective. This means, for example, that if the existing sector policies or design regulations do not allow for decentralised wastewater treatment options[2], a participatory planning exercise like CLUES will not be very effective.

[2] Decentralised wastewater management is "the collection, treatment and disposal/reuse of wastewater from individual homes, clusters of homes, isolated communities as well as from portions of existing communities at or near the point of waste generation" (Tchobanoglous, 1995).

Therefore, an important part of the decision to undertake the planning process is to review the existing environment and to decide what needs to be addressed in order to allow the programme to succeed, and to work towards securing these changes. These guidelines will help to identify which of the existing conditions need to be addressed and adjusted to bring about an environment that enables change.

The six key elements of an enabling environment for the successful application of a CLUES approach include:

1. The level of government support, in terms of political support and favourable national policies and strategies;
2. The legal and regulatory framework, with appropriate standards and codes at national and municipal levels;
3. Institutional arrangements that accept and support the community-centred approach used;
4. Effective skills and capacity ensuring that all participants understand and accept the concepts and planning tools;
5. Financial arrangements that facilitate the mobilization of funds for implementation; and,
6. Socio-cultural acceptance, i.e. matching service provision to the users' perceptions, preferences, and commitments to both short-term and long-term participation.

These main elements of the enabling environment should be identified during the planning process and the knowledge and understanding of the enabling environment should be continuously improved. Without a thorough understanding of the existing environment, problems and bottlenecks will arise in the planning process. Of course, there never will be 'the perfect enabling environment' – but there are degrees of more or less enabling or disabling factors which can hinder or facilitate progress.

It should also be considered that:

⇢ there is no checklist that will enable you to gauge the relative degree of supportiveness or 'buy-in' and whether or not there is a sufficiently enabling environment in which to proceed – this must be assessed individually for each context and setting. The analysis provided in Part 2 on page 49 will help you to assess the enabling environment and find ways to improve it;

⇢ enabling environments are dynamic. This means that the six elements identified in the summary checklist below will change over time through new governments, sector reforms, evolving sector policy, etc.;

⇢ project implementation can positively influence and even modify a given environment at the local level (e.g. by increasing awareness and knowledge in the community). Good practice and a successful planning process can catalyse a gradual move towards a more enabling environment and can lead to changes in thinking and the ways things are done.

Some minimal requirements should be considered before the 7-step planning process starts. These minimal requirements include:

- willingness of the local government to support or tolerate such a planning process;
- presence of a local champion who is willing and able to take the lead in the process;
- existence of institutional skills and capacities for facilitating multi-stakeholder processes at the municipal/utility level and at ward/local level (NGOs/CBOs).

The summary checklist in Box 2 will help you to consider the six elements involved. A more detailed assessment of the enabling environment is provided in Part 2 on pages 49 to 65 – don't forget to look into this, as it is integral to the success of CLUES!

BOX 2: Summary checklist for a preliminary assessment of the enabling environment

- **Government Support: Is there local authority support for community-centred approaches in terms of political support and favourable national policies?**
- **Legal and Regulatory Framework: Does the legal framework feature standards and codes at national and municipal levels that allow or promote alternative and/or low-cost options?**
- **Institutional Arrangements: Do the existing institutional arrangements support the multi-stakeholder & participatory CLUES approach?**
- **Skills and Capacity: Do the key stakeholders to be involved possess basic skills and capacity that can be developed to a sufficient level during the one year planning process?**
- **Financial Arrangements: Are there sufficient financial arrangements to ensure implementation and proper O&M?**
- **Socio-Cultural Acceptance: Is the socio-cultural environment conducive to full community participation and does it not exclude certain groups?**

PART 1

Let's Plan! The 7 Planning Steps

This part describes the 7-step planning process used to develop and implement a CLUES programme. These steps are presented in sequence, but in practice they will usually overlap and some steps may need to be repeated iteratively, in order to arrive at acceptable solutions. The most important principle is that the process should be 'owned' by the stakeholders who are directly affected: even though experts may be providing advice and taking a lead role on certain activities, the local community should take responsibility for the overall planning process. The figure on the back cover of this book provides an overview of the planning framework with its 7 steps, main expected outputs and workshops.

Stakeholder Participation

Stakeholders are those persons or organisations who directly or indirectly are affected by – or can affect – the environmental sanitation situation within a particular community or area. A distinction is made between process leaders, primary stakeholders, and secondary stakeholders. Process leaders are those responsible for driving the planning process and essential to achieving the main outcomes of the CLUES process. Primary stakeholders are institutions or people that have a "stake" in the planning process or have the potential to affect or be affected by planning decisions. Secondary stakeholders are other stakeholders who may take part in workshops or meetings but are not essential to the planning process. Detailed information on institutional arrangements and a list of typical stakeholder groups which should be involved in a CLUES process are provided in Part 2 of these guidelines on page 54.

In order to determine appropriate participation, it is essential to do a stakeholder analysis. A stakeholder analysis is the process of identifying and understanding the interests, influence, strengths and weaknesses of stakeholders, as well as the relationships between them. It allows finding out how to involve each one in the process. Some stakeholders are important for the project (their needs and interests are relevant and a priority) and others have influence on it (the power to positively or negatively affect the project). Stakeholders and their roles evolve over time: some stakeholders may be primary stakeholders at the beginning and then become secondary stakeholders or vice versa, according to the findings and decisions. A stakeholder analysis should therefore be reviewed and refined throughout the project.

The CLUES process suggests that a stakeholder analysis be done during the first three steps: step 1 includes a preliminary stakeholder identification, in step 2 (the official launch of the planning process) a participatory stakeholder analysis exercise is carried out and in step 3 the assessment is completed and refined. A detailed stakeholder assessment procedure is presented in Tool T5. For each of the 7 steps a list of stakeholders which typically should be involved is provided.



Figure 1: Awareness raising: presenting results of the drinking water quality analysis in Nala (Nepal) in 2009 (Source: Sandec).

Cross-Cutting Tasks

CLUES features three cross-cutting tasks, which are relevant throughout the entire planning process:

Awareness Raising and Communication

People's ability to make informed choices about the most appropriate system and technology and to absorb and adapt a technology has to do with creating awareness and exposure to good and well-designed examples. This entails giving stakeholders the opportunity to get "real-life" experience. This can involve either the building of good-practice demonstration units or conducting study tours to existing similar facilities and interaction with existing users (NETSSAF, 2008). Good examples also include organizing community "sanitation bazaars" (see cover image and T1) or targeted communication campaigns for special segments of the community, e.g. open defecators, waste handlers, etc. Social media like Facebook or Twitter also present increasingly effective tools for information sharing and communication in urban context.

Capacity Development

The application of the participative CLUES planning process requires knowledge, competencies and collaboration to mediate and guide the process (participatory management skills). Additionally, specific expertise are needed, e.g. to select and implement appropriate environmental sanitation solutions according to the given context (planning and engineering skills). Skills and capacity are an important component of an enabling environment. Therefore it may be necessary to build capacity by conducting trainings, sharing information and raising awareness. In order to sustain a new system, it will also be valuable to anchor the required knowledge for its operation and maintenance after implementation.

Going through a CLUES process should be considered a mutual learning experience for all stakeholders. By means of targeted capacity development activities, knowledge and skills can be transferred and developed, which empowers people and contributes to the efficient accomplishment and sustainability of the planned measures. Pages 58-60 in Part 2 provides a more detailed explanation of the required skills for different stakeholder groups and introduces possible methods for capacity development.

Process Monitoring & Evaluation

Monitoring is the act of assessing progress and making sure the planning process stays on track. Basically, monitoring involves a situation analysis that asks 3 simple questions: Where are we? Where do we want to go next? What do we need to do to make it happen?

There are many ways of monitoring: from elaborate monitoring checklists to community self-monitoring events. Ideally, monitoring should be executed by all individuals and institutions which have an interest in the project. For the sake of keeping things simple, we suggest that regular monitoring review meetings be held after each of the six planning steps by the process leaders, ideally right after the respective workshop. A monitoring checklist is provided in tool T30.

Regular monitoring facilitates the identification and correction of project inefficiencies and can lead to changes in the shape and direction of the project. For example, overall changes in city-wide service delivery may prompt a change in solutions that are offered, or new funding opportunities may broaden the overall scope of the project. Conducting an evaluation at the conclusion of the 7-step process will help to identify and document lessons learned which can in turn be used to improve the overall approach.

Step 1: Process Ignition and Demand Creation

The planning process presented in these guidelines begins with ignition and kick-off activities. These activities are adopted from the widely promoted CLTS approach and adapted to the urban context. The planning process aims to sensitise the community to environmental sanitation and hygiene issues and to create a momentum and a good basis for community participation. After a participative community mapping exercise and the discussion of key concerns in an initial community meeting, an agreement on action is formulated and a community task force is formed by previously identified community champions. This community task force acts as the interface between the community and other stakeholders.

This step must allow time for consensus-building and developing rapport between the community and the external persons/institutions involved.

What to do & how to do it?

The initial step of the CLUES process consists of the following three main activities:

1. Kick-off events

Successful kick-off events can both provide a basic understanding of the main health, sanitation and hygiene problems in the target community and ignite (or trigger) community motivation to improve their immediate environments. These events also help to create a basis for community participation and to identify community champions (see below).

Depending on the local conditions, the ignition process within your community can take on many forms. The most promising approach that can be used for community ignition is the popular Community-Led Total Sanitation (CLTS) approach. It is appropriate for rural and peri-urban settings with a high prevalence of open defecation but has not been widely tested in the urban context. If done well, the one-day CLTS triggering events can kick-off a successful process for change and community empowerment.

Tool T1 provides an overview and explanation of various kick-off activities and helps you select a suitable approach according to the characteristics and needs of your community. Depending on the approach you choose and the outcomes of a first event you can decide whether further events or activities are needed. Kick-off events are good opportunities to get a primary insight into the community and to find, inspire and support community champions (see Box 3).

BOX 3: Identifying community champions

In every community or neighbourhood there are some individuals who have the ability to influence change because of the respect given to them by the community members. Traditional leaders, opinion leaders, politicians, leaders of local community-based organisations, or just natural leaders can be community champions. Depending on the context they can be old or young, women or men, religious leaders or teachers (Chambers, 2009). Natural leaders must be strongly motivated, enthusiastic and committed towards their community. Once identified, they act as vital entry points to the targeted community and represent important linkages for community involvement during the planning process.

Note that not every community needs an initial ignition step. Especially in urban areas which have higher levels of education than in remote rural areas, awareness and knowledge about water, sanitation and hygiene issues can be well developed and this initial ignition step can be bypassed.

Two further approaches that are particularly appropriate for raising awareness for hygiene and health issues and demand for sanitation solutions in urban contexts are sanitation marketing and Community Health Club initiatives (see T1):

Sanitation Marketing combines changing sanitation behaviours and advertising affordable sanitation products and services. This can include drama or road shows, sanitation bazaars, etc. Marketing interventions are short and sporadic events that are limited to a few hours or a full day and can be repeated throughout the entire CLUES process.

Community Health Clubs are voluntary community-based organisations formed to provide a forum for information and good practice. They work best with a longer term stakeholder commitment.



Figure 2: Social marketing for improved sanitation in Mexico (Source: Atzin, www.atzin.org).

2. Initial community meeting

This half-day meeting builds on the initial momentum of the ignition events and aims to further mobilise and inform the residents, and to identify the main concerns of the community. The meeting should include fun and interactive elements to promote lively participation. In different working groups you are recommended to carry out the following activities with the participants of the meeting:

- Talking about key environmental sanitation problems in focus group discussions (see T2 for details on this technique)
- Going on a transect walk (see T3 for details) through the neighbourhood, thereby discussing issues regarding environmental sanitation, identifying community health risks and problems associated with poor hygiene practices. A "walk of shame" (commonly used in CLTS) represents a special form of a transect walk, which aims to create disgust among members practicing open defecation (but is not effective for all socio-cultural contexts).
- Creating a map of the neighbourhood in a participatory mapping exercise (often referred to as community mapping, see T3 for details)
- Defining the project boundaries and area of intervention.

In the plenary, the community agrees upon the issues identified and states its willingness to tackle them. If there is real commitment and initiative then it could make sense to draft a Memorandum of Understanding which community representatives can sign. For further steps to be taken, a community task force is formed. This task force should consist of committed and enthusiastic community members who are willing to be involved in the planning process by representing the interests and concerns of the community. Community champions identified during ignition events or this community meeting are important candidates for such a committee. The members of the task force will be formally confirmed or, if necessary, elected during the launching workshop in step 2 of the planning process. Tool T4 helps you organise such a community meeting.

3. Stakeholder Identification

During this first step you will mainly get an overview of the community and its characteristics, but also get a first idea of the stakeholders which will be important for the further development of the project. You should benefit from the activities in step 1 to do an initial stakeholder identification. This is particularly important in order to know who should be invited to the launching workshop in step 2. Tool T5 describes how to do it. During the launching workshop a participatory stakeholder assessment will be carried out with the participants, which allow a more detailed analysis of stakeholders.

Who should be involved in process ignition and demand creation?

Kick-off events:
- An established NGO or experienced facilitators lead kick-off activities
- Community members (open invitation)
- Small scale businesses already existing in the area

Initial community meeting:
- Community members (open invitation)
- Community champions identified during the kick-off events
- Existing CBOs and NGOs

STEP 1 TOOLS

T1 Ignition and Demand Creation

T2 Interview Methods and Questionnaire Examples

T3 Participatory Assessment Methods

T4 Organising Meetings, Events and Workshops

T5 Stakeholder Analysis

Main outputs

Kick-off events:
- Heightened community awareness of important water, sanitation and hygiene issues in the community
- Community champions identified

Initial community meeting:
- Key environmental sanitation problems identified by the community
- Community map and definition of project boundaries
- Formulation of an agreement on action
- Formation of a community task force

Stakeholder identification:
- First inventory and characterisation of stakeholders. This will form the basis for the analysis in step 2.

Caution

Start in favourable conditions. The community should be relatively homogeneous without insurmountable internal frictions. Transient communities without social cohesion should be avoided.

Informal tenure status can also be a formidable obstacle to improving urban environmental services and should be addressed early on.

While most of the mentioned approaches for ignition have been tested in homogeneous, rural or peri-urban contexts, their effect is worth testing in informal urban settlements that are more heterogeneous and challenging. The ignition process and identification of community champions may be less straightforward in urban than in rural communities.

Ignition and demand creation activities should equally address women and men. When organising the events, make sure you account for gender relations and balance the participation of men and women. In some cases the socio-cultural context will require to carry out separate activities for male and female community members.

Example for Step 1

Ignition and demand creation in informal settlements of Kampala, Uganda

Social marketing is considered one of the most effective approaches for igniting a process to improve household sanitation and hygiene practices. To prepare for a social marketing campaign, SSWARS (a local NGO working in Kampala's informal settlements) conducted a thorough needs assessment. Through consultations with community leaders in three slum settlements in Kawempe division, SSWARS established the sanitation situation and sought community opinions on what could be done to improve household sanitation. The findings showed that poverty, lack of knowledge and deficient technology were the main reasons for poor household sanitation and hygiene practices. The following triggering activities were developed to improve overall conditions:

- Information, Education and Communication materials such as posters and flyers were developed in English and the main local language (Luganda) and circulated to inform the residents about best practices in sanitation and hygiene practices.
- In each of the target communities, voluntary Village Health Team members were identified and trained to carry out day to day sensitisation and health education of residents.
- Drama activities in which community members acted out the values of good sanitation and hygiene behaviour were used as sensitisation tools.



Figure 3:
Village health teams in Kampala, Uganda being trained on the use of promotion tools (Source: SSWARS).

Step 2: Launch of the Planning Process

Step 2 is where all key stakeholders formally come together to develop a common understanding about the complexity of environmental sanitation problems in the intervention area and to agree on the process of how to solve them. The launching workshop must be inclusive, well-structured and create public attention. Through community sensitisation carried out during the previous step, enough activity is generated to initiate the planning process. The main outcomes of step 2 are a written protocol agreement, an agreement on the project boundaries and an agreement on the overall planning methodology and process.

What to do & how to do it?

The launching of the planning process involves organizing and holding an Official Launching Workshop which includes the key stakeholders and aims to formalise the planning process. A high level of organisation and timeliness will contribute to workshop success. T4 will assist you in organisational aspects.
The following items should be covered in this half-day workshop:

1. Workshop opening
2. Presentation of the CLUES approach
3. Participatory stakeholder assessment
4. Definition of the project spatial boundaries
5. Problem assessment by the different stakeholders
6. Approval of planning methodology and agreement on responsibilities
7. Written protocol agreement and summary report of the launching workshop

T6 provides a detailed overview of a suggested workshop agenda. Details for the seven elements of the launching workshop are given below.

1. **Workshop opening**
   A community representative should provide a short overview of the key problems of the urban environment and basic urban services. This can be done orally or with the help of slides and images.

2. **Presentation of the CLUES approach**
   The process leader, e.g. NGO or agency, presents the CLUES approach, making sure that all the participating stakeholders really understand and accept the implications, e.g. the necessity of intensive user involvement; close collaboration between various agencies; and the possibility that the inte-grated, multi-service solution finally adopted may not exactly correspond to what the individual sectoral agencies had envisaged (you may use T7 for this).

3. **Participatory stakeholder assessment**
   An identification of all stakeholders and their interests should be carried out during this workshop and be adapted and fine-tuned in the following steps of the process. Tool T5 can assist you in structuring this.

4. **Agreement on project boundaries**
   Participants need to decide on the physical boundaries for programme interventions. An additional transect walk (see T3) could help identify the exact boundaries of the respective settlement. It is important to reach consensus during the meeting to define the physical boundaries for planning purposes, recognising that as the programme develops, implementing actions may be sequenced differently for different parts of the programme area and for programme parts managed by different stake holders.

5. **Problem assessment by the different stakeholders**
   Stakeholders can form small thematic working groups to discuss local service deficiencies, urban environmental problems, the main reasons behind poor urban services as well as community capacity to participate in the planning process and implement recommended actions. Tool T8 on problem tree analysis can be used for this group work. Finally the small thematic working groups should develop problem statements based on their discussion;

6. **Approval of planning methodology and agreement on responsibilities**
   Stakeholders decide on whether or not to really launch the project process. In a positive case, the approval of the planning methodology should be followed by nominating and approving a project coordination committee (see Box 4). The members of the community task force formed in step 1 should also be formally integrated. An agreement should be reached on how the remainder of the work will be carried out, and responsibilities should be defined. In particular, an agreement has to be reached on who will have responsibility for the overall management and coordination. Given the number of agencies likely to be involved, the process leader needs to be a respected and neutral professional, and a skilled diplomat.

7. **Protocol agreement and summary report of the launching workshop**
   The process leader with the coordination committee must develop a written protocol agreement so that the agreement that is binding to the involved and affected stakeholders. The workshop report should include the roles and responsibilities of the various stakeholders in the process, a preliminary definition of project boundaries and the selected project coordination committee members.

BOX 4: Project coordination committee

This committee is the driving force behind the entire planning process. It involves members of the community task force and other stakeholders identified as 'primary' during the participatory stakeholder assessment in step 2. It should be chaired by a respected and experienced person. The committee coordinates the main workshops and planning activities and is responsible for editing any main reports or final plans. Committee members should work voluntarily but may be remunerated for monthly committee meetings.

Who should be involved in the launch of the planning process?

The official launch of the process should be held after the community meeting of step 1 in the form of a multi-stakeholder workshop. The workshop should be moderated by an expert facilitator. It should be attended by the various stakeholders identified during the kick-off events and should include the process leader, municipal health officers, municipal and district authorities, utility representatives, NGOs, university lecturers and students and representatives from the community including the project coordination committee.

STEP 2 TOOLS

T3 Participatory Assessment Methods

T4 Organising Meetings, Events and Workshops

T5 Stakeholder Analysis

T6 Sample Agenda: Official Launching Workshop

T7 PowerPoint Slides: CLUES Presentation

T8 Problem Tree Analysis

Caution

Make sure to involve local government and utility representatives in the official launching workshop to avoid potential conflicts with existing policies, regulations or municipal by-laws. It will also help clarify available support and skills at municipal or district levels.

This step will result in the decision of whether to continue or terminate the CLUES process and is therefore of great importance. Given the large number of stakeholders with diverging interests involved, an overall agreement may be difficult. Therefore, an experienced moderator who understands the goals of the project and its commitments is necessary. CLUES is based on a demand-responsive approach, whereby only those communities showing willingness to participate in planning, training and O&M are selected.

Main outputs

- Decision on continuation of the planning process
- Participatory stakeholder assessment
- Definition and delimitations of programme boundaries
- Problem statements
- Approval of planning methodology and agreement on process and responsibilities
- Protocol agreement and report of the launching workshop
- Formation of a project coordination committee
- Confirmation of the community task force (formed in step 1)

Example for Step 2

Launching Workshop in Hatsady Tai, Vientiane. Laos

This example from Laos highlights how a launching workshop links to the initial community meeting. During Step 1, prior to the official launching workshop (Step 2) a community meeting was organised with the aim of identifying the main issues in the urban neighbourhood, mapping current environmental sanitation services, and discussing the suggested planning process.

Initial community meeting (Step 1): The half-day community workshop was organised in the neighbourhood meeting room of Hatsady Tai and attended by 60 community members, local government authorities, political organisations, the process leader, and representatives of Sandec. The goal of the workshop was to present and discuss the project idea and the planning procedure, to conduct a rapid assessment of the current environmental sanitation situation, and to identify the main stakeholder groups. Focus group discussions and participatory mapping were used as the main participatory assessment methods.

Official launching workshop (Step 2): The project was officially launched on 11 July, 2007 in the framework of a multi-stakeholder workshop in Vientiane. The objectives of the workshop were to validate the project site, formalise the planning process, identify relevant stakeholders, review the current political and legislative environment in Lao PDR, and set up a project coordination committee. The workshop was attended by participants representing relevant national, provincial and district level authorities, NGOs, academia, and village representatives. A major issue mentioned by the workshop participants was the need to identify funding sources at a very early stage of the project.



Figure 4:
Official launching workshop in Hatsady Tai, Laos in 2007 (Source: Sandec).

Step 3: Detailed Assessment of the Current Situation

Step 3 is about understanding the physical and socio-economic environment of the intervention area. This step is important because it provides the necessary background information for all future planning steps. Outputs include a refined stakeholder analysis, a poverty map, baseline data, and a thorough assessment of the enabling environment and current levels of service provision. Step 3 must be coordinated by an able person/institution that is familiar with the area and understands the complex sectoral issues and service delivery problems, it can be an expert hired by the process leader. The detailed assessment (i) is participatory, (ii) has a pro-poor focus, (iii) deals with all elements of environmental sanitation, and (iv) takes into account a community's views and experiences. The main outcome of step 3 is a detailed status assessment report for the intervention area.

What to do & how to do it?

After having gone through the summary checklist on the enabling environment on page 13 and having conducted the ignition and launching steps, you should at this stage have the basic knowledge needed for the decision to continue the CLUES process. Now is the time to collect detailed information for further planning activities. The detailed assessment should be conducted as a participatory, comprehensive exercise involving all key actors (especially all primary stakeholders identified during step 2). It includes an analysis of current conditions and service levels in the community as well as a more detailed assessment of the enabling environment. The following presents a step-by-step overview on how to conduct the detailed assessment:

1. Collect and synthesise existing information about the project area from all sources (reports, studies, student theses, etc.). Assess which data is outdated and where there are missing data (e.g. demography, poverty levels, updated area map).

2. Conduct a full assessment of the enabling environment. It should include issues like sector legislation and regulations, sector finance, availability of human resources and skill levels, health and hygiene levels, gender roles, and security of tenure (especially in informal and semi-formal settlement areas). Without a thorough understanding of the existing environment, problems and bottlenecks are likely to arise later in the planning process. There never will be "the perfect enabling environment" – but there are degrees of more or less enabling or disabling factors which can hinder or facilitate progress. To conduct a complete assessment, use the checklist provided in tool T9 and refer to Part 2 about the enabling environment.

3. Assess current conditions and services in the intervention area. This should include existing sanitation facilities, types of latrines, water consumption, existing sewers, sludge management practices, analysis of service providers, solid waste collection, disposal sites, fees, etc. Assessment strategies should include semi-structured interviews and focus group discussions (see T2), both with service provider representatives (utilities, municipal services, private enterprises) as well as service customers and end-users (e.g. farmers using products like dried faecal sludge, eco-humus or urine).

4. Carry out a poverty mapping exercise (community mapping with focus on poverty information, see T3). If there is no existing data on the current poverty status of the intervention area, a mapping exercise allows poverty information to be geographically disaggregated. It will also facilitate targeted interventions to reach the poorest and

most vulnerable. Poverty and inequality are multi-dimensional – consumption and income, education, health, opportunities, powerlessness, etc. – and have multiple determinants, especially in unserved urban settlements. A basic understanding of the linkages between urban poverty and the lack of services is a crucial aspect of the analysis and needs to be taken seriously.

5. Conduct a randomised household survey (see T2). If you have resources and trained staff available, household surveys can provide detailed information and statistics on the residents' behaviour and perspectives. An extensive survey is not required for the purpose of a detailed status assessment, but conducting semi-structured interviews with randomised households during one or two days can be helpful.

6. Refine the stakeholder analysis conducted during the launching workshop (see tool T5). During this step, many interactions with the different stakeholders take place through focus group discussions, semi-structured interviews, informal conversations and field visits. This leads to a much closer relationship with stakeholders and a better understanding of their interests, influence, strengths, weaknesses, potential for collaboration and empowerment needs.

The following assessment step is optional:

- Transect walk (see T3): if not already done in step 1 or 2, conduct a transect walk in the intervention area together with community representatives (NGOs, CBOs, and teachers) to get a first-hand impression of the local situation.

Collecting and synthesizing information is a challenging task and in many cases it will be the first time such detailed baseline data has been collected for a given area. Generally, step 3 should take about 10-12 weeks to conduct. At the end of step 3, a detailed 'status assessment report' will be produced and distributed among all primary stakeholders. A sample outline of such a report is provided in tool T10.

Who should be involved in a detailed assessment?

- The process leader in charge of coordinating the CLUES process: NGOs, municipal departments or universities/applied research units. The process leader leads and coordinates the detailed assessment
- Community champions and elected councillors, teachers, religious leaders, women's groups
- Other primary stakeholders: the utility, ward or city-district officers, municipal planning and health departments, other NGOs or donors working in the area, private sanitation entrepreneurs, by-products reusers (e.g. farmers)
- The unserved: organise focus group discussions with disenfranchised parts of the community

If the CLUES coordination committee established during step 2 is up and running, you could consider providing them with a small budget to carry out parts of the assessment work. This will further empower them and strengthen process ownership.

STEP 3 TOOLS

T2 Interview Methods and Questionnaire Examples

T3 Participatory Assessment Methods

T5 Stakeholder Analysis

T9 Assessment Checklist

T10 Contents and Examples of a Status Report

Main outputs

- Refined stakeholder analysis
- Poverty map
- Results of the randomised household survey
- Status assessment report, summarizing all main findings. If necessary, this report should be translated to the local language
- Decision to proceed with the CLUES process taken by project coordination committee

Caution

Tensions and disagreements between different stakeholders may become apparent the deeper the process goes. Instead of concealing these differences, the detailed assessment should pay particular attention to making these transparent and present all sides of conflicts/ disagreements in an objective way. To give an example: landlords' interests are fundamentally different from tenants' interests when it comes to providing safe and improved toilets.

Public water and sanitation utilities with monopolistic services are often unsupportive of small-scale entrepreneurs serving poor urban areas (who often complain of unfair treatment).

Be aware that communities can provide false information in order to achieve their aims (and become project beneficiaries). It is important that the process leader is introduced to all stakeholders and stakeholder groups. Getting to know people personally and building trust are key factors for success.

Example for Step 3

Detailed Assessment in Chang'ombe, Dodoma, Tanzania

The status assessment report for the Chang'ombe area in Dodoma contains the most up-to-date and complete data on environmental conditions in the unplanned settlement of Chang'ombe and pulls together information from various sources, including focus group discussions and key informant interviews. Additionally, a random sample survey covering 217 households was conducted to illustrate socio-economic data, health and hygiene conditions and the state of housing and physical and social infrastructure in Chang'ombe. The report was produced by the NGO Maji na Maendeleo (MAMADO), the Ifakara Health Research & Development Centre and Sandec from November 2007 to January 2008. Main findings included that 90% of the residents use simple pit latrines that are shared by several households and are often in a bad state of repair. Diarrhoea was mentioned as the most common disease and cholera is also prevalent during the rainy season. Solid waste collection is non existent in Chang'ombe. Two examples of assessment reports from Chang'ombe and Hatsady Tai in Vientiane, Laos, can be found in T10.



Figure 5:
Carrying out interviews with selected community members in Chang'ombe, Tanzania. (Source: Sandec).

Step 4: Prioritisation of the Community Problems and Validation

Step 4 is about assessing the priority problem areas in the community. The objective of this step is to agree on the implications of the detailed status assessment (of step 3) and to prioritise the environmental sanitation service response. The prioritisation exercise can be done either in a community workshop or a series of focus group discussions. It is also important to validate the status assessment report and correct any factual errors or misinterpretations in the draft report. Only after this validation should the assessment report be considered as 'final'.

What to do & how to do it?

Three agenda items should be covered:

- Presentation, discussion and endorsement of the baseline data of the status assessment report.
- Definition of the community's priority problems, paying special attention to environmental sanitation.
- Assessment of the community's willingness to pay for improvements.

All three items can comfortably be covered in a **half-day workshop** if prepared properly (see T4 for organisational aspects). A presentation on the assessment report's main findings should be prepared beforehand; additionally a summary report in the local language could be handed out. A guided discussion should follow to identify and address any misinterpretations in the draft report. Based on the findings of the status assessment report, the second part of the workshop will focus on prioritisation of identified problems, focusing on environmental sanitation. The easiest way of conducting a priority assessment is by "pocket voting" (see tool T2) – a simple way of gauging workshop participants' priorities in a democratic and anonymous "one person, one vote" set-up. The third part of the workshop is about the assessment of the willingness to pay for service improvements (see T11).

Another possibility is to conduct individual interviews or focus group discussions (see T2). This needs more careful preparation and is also lengthier to conduct than workshops.

Who should be involved in prioritising and validating the community problems?

- The process leader (organisation and agenda setting)
- Community members (by open invitation, but make sure to hear the voices of groups with different interests and concerns in this workshop!)

STEP 4 TOOLS

T2 Interview Methods and Questionnaire Examples

T4 Organising Meetings, Events and Workshops

T11 Assessment of Effective Demand

Caution

Experience has shown that the community will also prioritise other problems, such as bad roads, poor access to municipal health services or urban crime in this context. Even when the focus of the project is clearly on environmental sanitation, such issues should not be excluded from the discussion. Overlaps between environmental sanitation and other problems should be seen as opportunities or threats for the project:

- Example of an opportunity: road improvements could be tackled together with the construction of sewerage infrastructure. In that case the roads could also be financed from a different budget.

- Example of a threat: if better environmental sanitation services are not a priority in light of other problems, the motivation to participate in the project will not be high in the community, which represents a risk of failure.

Individuals attach different importance to different issues. As in step 3, there are potential conflicts that may also surface during this step. Some examples may be:

- Differences between women's and men's priorities – it is therefore important to organise the pocket voting exercise or focus-group discussions with gender considera tions;
- Different expectations about service levels between higher and lower income house holds;
- Different levels of concern between higher and lower lying areas regarding stormwater drainage issues.

You should also keep in mind that the priorities workshop provides a snapshot of the participants' opinions, not of the entire community. If the community members are invited through an open invitation, some effort might be needed to ensure that a representative community group participates in the workshop (e.g. by motivating members of low-income households or women to participate).

Main outputs

- Approved assessment report
- Endorsement of the community's prioritisation regarding environmental sanitation problems

Example for Step 4

Assessment of user priorities on environmental sanitation problems in Nala, Nepal

In Nala, user needs were identified through four ward-level focus group discussions in October 2009. In the discussions, the needs were first randomly listed and then discussed individually. The needs identified were drainage, infrastructure improvement, education, water quality, sanitation awareness, restoration of monuments, among others.
Based on the importance and urgency to address these needs in the community, the groups prioritised them. In all four focus group discussions, the users prioritised sanitation improvements as well as stormwater drainage as their top needs.

Figure 6:
Focus group discussion on user needs in Nala, Nepal in 2009 (Source: M. Sherpa).



Step 5: Identification of Service Options

Step 5 is about identifying environmental sanitation options that are feasible for the intervention area. The objective of this step is to reach a decision about sanitation system(s), considering technical and non-technical issues, as well as the outcomes of the assessment (step 3) and the defined priority problems (step 4). This is a pivotal step of the planning process as the planning team, in consultation with environmental sanitation experts and key stakeholders, will narrow down the applicable environmental sanitation systems to a manageable number. The selection of options is based on a systems approach, i.e. considering all components required for the adequate management of the different waste streams (i.e. human waste, greywater, stormwater and solid waste), the users of the system, the collection at household level, transport, treatment, and management of end products. The main outcome of step 5 is an agreement on one or two environmental sanitation systems to be studied in greater detail. The agreement reached by the community and the local authorities should be based on an understanding of the management and financial implications of the selected systems.

What to do & how to do it?

The identification of possible environmental sanitation options includes two sub-steps: first, an **expert consultation workshop** to identify the feasible systems, and second, the selection of the most appropriate options by the end-users based on a **community consultation process**. The selection is supported through exposure by residents to feasible options, be it through constructing good-practice demonstrations, or through study tours to existing facilities.

Although solid and liquid waste management issues are strongly linked, from a practical viewpoint, it may be advisable to approach these issues separately. Tools to plan and implement municipal solid waste management concepts are available and have stood the test of earlier field applications (e.g. T12 or T13), and are not further discussed here. The following planning procedure focuses on the identification of systems for the management of liquid waste, including human waste, greywater and stormwater drainage.

Keep in mind that the final goal of the project is to provide improved environmental sanitation services for the entire project area, addressing the needs of all the area's population. Also keep in mind that it is unlikely that one system will be appropriate everywhere, but that rather a combination of sanitation systems that are most effective in meeting households' needs will be required.

Sub-Step 5.1: Pre-selection and evaluation of sanitation options through expert consultation

The goal of this sub-step is to identify all environmental sanitation options that are likely to be effective and sustainable in the project area, and to describe the main implications of the systems. This pre-selection takes place in an expert workshop. The workshop must be prepared very carefully (see T4), should be strongly output oriented, and requires professional facilitation. Tool T14 is a sample agenda for the expert consultation workshop. After the workshop the planning team further assesses the pre-selected systems regarding their financial, institutional, technical and social characteristics.

The Compendium of Sanitation Systems and Technologies (tool T15, see Box 5) may be used to pre-select feasible systems. The main activities during the expert workshop include:

1. The planning team presents the main findings of step 3 (Detailed Assessment of the Current Situation) and step 4 (Prioritisation of the Community Problems).

2. The facilitator presents the methodology to select environmental sanitation systems based on the Compendium of Sanitation Systems and Technologies (see tool T16 for pre sentation slides).

3. Experts work in groups or in plenary to
   a. identify the key aspects that might affect the applicability of sanitation systems and technologies.
   b. narrow down the options to those which are feasible within the local situation based on the existing infrastructure, the physical characteristics of the site, the re-use opportunities, and the economic limitations of the community and responsible agencies.
   c. pre-select feasible systems providing those services which are a priority.
   d. assess the strengths, limitations, and main implications of the pre-selected systems. Tool T17 provides a procedure that might help in facilitating the group work.

4. The facilitator moderates the final discussion, which should result in an agreement on a set of feasible options for the management of excreta, greywater and stormwater, and the main implications of each option.

BOX 5: Compendium of Sanitation Systems and Technologies

The Compendium of Sanitation Systems and Technologies (Tilley et al., 2008) is a planning and reference tool on the most appropriate and most sustainable sanitation systems and technologies.
Environmental sanitation services should be considered as parts of an entire system, i.e. a multi-step process in which products (wastes) are managed from the point of generation to the point of use in different flow streams. A sanitation system also includes the management, operation and maintenance required to ensure that the system functions safely and sustainably. The Compendium of Sanitation Systems and Technologies will help you understand and work with the system concept based on pre-defined system templates and by iteratively choosing and linking appropriate technologies. It will also help you to identify the strengths and weaknesses of sanitation systems and technologies. The Compendium is broken into five sections: User Interface, Collection and Storage, Conveyance, (Semi-) Centralised Treatment, and Use and/or Disposal. Within each section, a variety of options exist; users select logical options from the different sections to build an entire system.
While greywater and stormwater are included in the System Templates, the Compendium is primarily concerned with technologies directly related to excreta. Tools such as T18 and T19 will be useful in the identification of appropriate technologies for greywater and stormwater management, respectively.

After the expert workshop the planning team conducts a more detailed assessment and description of the financial, institutional, technical and social implications of the pre-defined options. For each feasible system identified, the following should be done:

1. Identify the general operation and maintenance requirements for each of the options.

2. Identify the skills required to construct, operate and maintain the system components.

3. Calculate an estimated budget for both capital and recurrent costs of the options on a per household basis, as well as for the entire project area. The use of simple tools such as standard engineering details and spread sheets or bills of quantities (see tool T20) enables informed cost estimates.

4. Identify a realistic list of potential sources of financing which covers both individual (household) and collective (community-level) investments. This list should also define when actual cash or contributions would be expected from the households or from the municipality.

5. Identify the benefits associated with each option, e.g. convenience, environmental protection, better public health and socio-cultural norms and increases in property values (develop a matrix to compare the different options).

6. If not yet done in step 3, assess the existing or potential demand for waste products (e.g. compost or biogas) which could influence the selection of the sanitation system.

7. Produce a summary report on the expert consultation workshop and the assessment of the pre-selected systems.

Who should be involved in sub-step 5.1?

A group of approx. 15-30 people from the following list should participate in the expert consultation workshop:

- Experienced facilitator(s)
- The entire planning team (process leader) to ensure an interdisciplinary perspective on the options
- National and international experts in environmental sanitation and urban planning
- Representatives of concerned sector agencies and regulatory bodies

Sub-Step 5.2: Community consultation workshop

The purpose of this workshop is to discuss the feasible technical options identified previously with key stakeholders and decide on one or two options to study in more detail. The importance of this sub-step is to ensure that stakeholders have an opportunity to participate in the narrowing of options by expressing their preferences and concerns.

To prepare for the community consultation workshop, the process leaders should design a strategy for presenting and discussing the options with the community, and organise the workshop (see T4). Depending on the size and the characteristics of the project area, you might decide to have one public meeting or several focus group workshops, e.g. for particular neighbourhoods or service areas. T21 presents a sample agenda of the community consultation workshop. The workshop(s) should be moderated by experienced moderators with strong leadership and profound knowledge of the socio-cultural and political context.

Prepare a presentation of the feasible technical options pre-selected in the expert consultation workshop. You may use the PowerPoint outline provided in tool T22 for this task. The presentation should include the conclusions from steps 3 and 4, a summary of the expert workshop including its process and main findings. The pre-selected system options should be presented in a manner such that the public will understand the implications and will be able to easily compare the pros and cons of each option. You should therefore prepare the information in visually effective ways, including maps, photos, charts, tables, drawings etc. Specialist input may be required in designing and producing these materials, and they should be tested to make sure they can be understood by the intended audience.

Main activities during the community consultation workshop(s) include:

1. Presentation of the outcomes and findings of the previous steps in a clear and succinct manner;

2. Discussion of the pre-selected options, their management and financial implications, and their potential benefits. Make sure that the meeting allows for ample discussion time and that a few people do not dominate the meeting;

3. Agreement on one or two system options to be studied in more detail. Summarise the results of the discussion with the stakeholders in a memo/short report.

Who should be involved in sub-step 5.2?

A group of approx. 40-80 people from the following list should participate in the community consultation workshop:

- Experienced moderator(s) with strong leadership and social skills
- The planning team
- Key stakeholders identified in step 3 (community or its representatives, local authorities, private service providers, land owners etc.)
- Interested residents

STEP 5 TOOLS

T4 Organising Meetings, Events and Workshops

T9 Assessment Checklist

T12 Municipal Solid Waste Management Planning

T13 Composting Manuals

T14 Sample Agenda: Expert Consultation Workshop

T15 Compendium of Sanitation Systems and Technologies

T16 PowerPoint Slides: Compendium Presentation

T17 Procedure for the Pre-Selection of Sanitation Systems

T18 Greywater Management Manual

T19 Surface Water Drainage Manual

T20 Sanitation Costing Tool

T21 Sample Agenda: Community Consultation Workshop

T22 PowerPoint Slides: Presentation Outline for the Community Consultation Workshop

Caution

Step 5 must be conducted by a multi-disciplinary team of engineers, planners and community workers. The identification of options must be participatory, and deal with environmental sanitation in its entirety. Usually when talking about 'sanitation' one speaks not of sanitation, but rather of a single technology, or an instrument, that is designed to treat excreta and wastewater. Too often, a technology is implemented, only to realise later that there has been no provision made for the treated effluent, greywater, faecal sludge, or other various side streams that may emerge. So while the technology itself may fulfil its purpose, the system as a whole may actually be a failure.

It is important for the expert workshop that all feasible options are considered, and not just those preferred by the expert team.

Build on existing practices and infrastructure! Sanitation improvements should be approached incrementally, based on local beliefs and practices and work towards small lasting improvements that are sustainable at each step. As far as possible, try to upgrade existing infrastructure and (informal) services, rather than introducing new systems.

The workshops in step 5 require a knowledgeable moderator who (i) is trusted by the community and (ii) has knowledge about the issues at stake (although he or she doesn't need to be an engineer).

Main outputs

Outputs related to sub-step 5.1:

- Matrix of pre-selected environmental sanitation systems, including main requirements, strengths and limitations of each system, and a list of criteria which influenced the pre-selection
- Report showing the various packages of service options, with a clear description of each option in terms of:
  - the technical concept and the requirements for linkages to wider city infrastructure
  - the relation to the priority problems and the minimum level of service previously agreed upon in step 4
  - possible institutional and management arrangements
  - operation and maintenance requirements, with particular emphasis on potential contributions from the communities served, local authorities and small entrepreneurs
  - approximate capital and O&M costs, where possible, translated into probable repayment implications (such as water and sewer tariffs, monthly charges for solid waste management, levies for stormwater drainage etc.)
  - potential externalities, such as environmental impact and employment generation or achievable economic benefits through the reuse of waste products

Outputs related to sub-step 5.2:

- Minutes recording the agreement on 1-2 sanitation systems (to be studied in greater detail in step 6)
- A written document from the community acknowledging the management and financial implications of the technical options

Example for Step 5

Identification of Service Options for Hatsady Tai, Vientiane, Laos

The identification of options for Hatsady Tai in Vientiane was conducted in a series of steps. The status assessment report (outcome of step 3), the priority problems defined by the community (outcome of step 4) and the Compendium of Sanitation Systems and Technologies (Tilley et al., 2008) were used as a starting point. The applicability of different sanitation systems to the project area was first assessed by a group of national sectoral experts in an expert consultation workshop. The main factors influencing the applicability of systems included: (a) a strong cultural barrier towards handling and reusing of human waste; (b) limited space for on-plot systems; (c) limited accessibility for emptying of on-plot systems; (d) a lack of reuse opportunities within reasonable distances; (e) a possibility to link to the higher level (city-wide) sanitation system; and (f) a strong preference for water based systems and/or a rejection of dry sanitation technologies.
Three systems pre-selected by the expert group were then adapted to the local context (translated and described using simplified system templates) and discussed with the local authorities and community representatives in a community consultation workshop. The participants concluded that a combination of

two environmental sanitation systems was the most appropriate and would build on the existing sanitation services. The selected system included the rehabilitation and conversion of existing cesspits into sedimentation chambers for black- and greywater pre-treatment, and connected these chambers to a solids-free shallow-depth sewer system with semi-centralised anaerobic treatment (one anaerobic baffled reactor (ABR) and 2 multi-compartment septic tanks). The effluent would be discharged to an improved stormwater drainage network, which connects to the city sewer network. Faecal sludge is treated mainly through dewatering.

The sanitation concept was further elaborated by the planning team. The plans included a proposal for the layout of the system (i.e. placement of drainage channels, sewers and semi-centralised treatment systems, technological options for drainage and wastewater treatment), as well as cost estimations and O&M requirements for each component. The drafted plans were discussed and approved during a community consultation workshop.



Figure 7:
The three systems pre-selected by the expert group being discussed with the local authority of Hatsady Tai, Laos (Source: Sandec).

Step 6: Development of an Action Plan

The objective of this step is to develop local area action plans that build on the options that were selected earlier and which are implementable by the community, the local authorities and the private sector. Developing the action plans requires a certain amount of expertise in planning and programming and should therefore be done by a select group of experts working jointly with knowledgeable local resource persons. The main output of step 6 will be a CLUES action plan that is costed (and ideally funded), timed and guided by output-based targets. In order to ensure swift implementation, easily reachable targets should be addressed first (so-called quick-start projects). Every action plan must contain an operation and maintenance management plan to ensure the correct functioning of the sanitation system.

What to do & how to do it?

Sub-Step 6.1: Development of a CLUES Action Plan

The CLUES action plan contains the blueprint for implementation and can be considered the main output of the entire planning process. The main activities needed for the action planning are to:

1. Establish a planning team responsible for the action planning and map out a time line for producing the action plan. Decide if additional experts or outside know-how is required.

2. Make the final decision on options to be implemented based on step 5 outcomes.

3. Identify the main links and interfaces with citywide infrastructure (e.g. trunk sewers or solid waste transfer stations) and existing municipal or private services.

4. Develop a step-by-step action plan which integrates the combination of services and technical options selected earlier, allocates roles and responsibilities for the implementation and takes into account the findings of the detailed assessment, particularly the current practices, needs, interests and influence of the different stakeholders. Tool T23 provides a sample outline of an action plan.

5. Develop a timeline for implementation with distinct phases and an itemised implementation budget (see example in tool T23).

6. Develop a monitoring and evaluation strategy for the implementation phase.

7. Develop an operation and maintenance management plan with clear allocation of costs, responsibilities and training needs (see sub-step 6.2).

8. Identify funding opportunities, mapping out external and local funding streams. Tool T25 contains information on funding mechanisms.

9. Present a draft action plan for review (ideally at the municipal level and including community participation, e.g. in a town hall debate).

10. Finalise the action plan and facilitate adoption by community and authorities.

Sub-Step 6.2: Development of an Operation and Maintenance Management Plan

During this step you will need to develop detailed proposals on how to ensure long-term and sustainable operation and maintenance of environmental sanitation services. O&M plans form part of the action plan and should be developed in consultation with those who will have to implement them. These plans must be developed in the local language, and be approved by all, including higher level authorities.

The O&M management plan should define the following:

- O&M tasks, including routine inspection and maintenance, periodic maintenance, and urgent maintenance. Depending on the implemented sanitation technologies it might be helpful to install user information posters and to distribute manuals. The O&M frequency should also be determined for each task.
- administrative tasks, including book-keeping, collecting fees, annual budgeting, paying employees, dealing with complaints, etc.
- reporting procedures.
- responsibilities of all parties concerned, including residents, local authorities, community groups, water and sanitation committees, private sector providers, etc.
- Training activities for responsible persons.

One example of O&M regulations and procedures, implemented in the CLUES project in Laos, is presented in tool T24.

It is advisable to split O&M tasks into smaller units. This offers the possibility to assign units to different stakeholder groups, e.g. cleaning of drains by a CBO, de-sludging of septic tanks by a private service provider, solid waste collection by the municipality, etc. This also enables public-private partnerships in service delivery. It is especially important to assign supervision and maintenance tasks to different parties to ensure quality control.

Who should be involved in the action planning?

The action plan needs to be developed by a small group of dedicated and professional persons (4-6 persons). The action planning team composition will vary depending on each context and plan focus. However, the project coordination committee should take the lead to ensure continuity from the previous steps. The committee should be supported by:

- Local experts in environmental sanitation (engineers) and members of the planning department (urban/social planners)
- Specialised knowledge for parts of the action plan, e.g. microfinance specialist
- Individuals or small enterprises to be involved in future operation & maintenance
- Community resource persons

STEP 6 TOOLS

T23 Contents of an Action Plan

T24 Sample Operation and Maintenance Documents

T25 Funding Opportunities

Caution

The action plan should not contradict the existing municipal or sector master plans – reconciliation of the planned proposals with existing services and municipal plans should be done early on. However, for most unplanned settlements such plans usually do not exist.

Where institutional capacity for planning and programming is low, private or NGO expertise should complement the coordination committee.

Action plans should not be huge documents that nobody cares to read. Rather, they should be clear and concise like roadmaps or cooking recipes, showing how to move forward with implementation.

Main output

- A finalised CLUES action plan that is adopted by the community and acknowledged by local authorities or utilities. The plan should include technical, institutional and human resources issues, a timeline, a financing model as well as a specific operation and maintenance management plan. The plan should also include a monitoring and evaluation strategy for implementation, to be further developed in step 7 (Implementa tion). Make sure that the action plan harmonises and does not contradict city-wide planning and programming documents (e.g. Strategic Plans or Sector Master Plans).

Example for Step 6

Development of an Action Plan for Nala, Nepal

The Environmental Sanitation Improvement Plan for Nala (see Figure 8) was concluded after a 12 month planning process which sought to improve the existing management system of blackwater, greywater, stormwater and solid waste. In addition, the plan proposed to build local capacity to sustainably operate and manage the new services and to conduct health and hygiene improvement programmes. Below is a brief description of the CLUES plan for the different products. Parts of this action plan can be accessed in Tool T23.

Blackwater: Three potential sanitation systems were identified for Nala through the expert group consultation: Double Vault Ventilated Improved Pit (VIP) latrines, Urine diverting dehydrating toilets (UDDTs) and simplified sewerage combined with decentralised wastewater treatment systems (Dewats). The Dewats system was the most preferred option followed by UDDTs. Considering the users' preference and the variation of the settlement pattern, different solutions were recommended for blackwater management in Nala. For the scattered, low-density housing surrounding Nala (which constitutes approximately 40% of the houses) low-cost source separation toilets were recommended.

Greywater management: Greywater will be combined with blackwater. Adding greywater to the sewer helps the wastewater flow as there is low water use in the existing system. For the greywater generated at public taps or wells, the existing stormwater drains will be utilised for discharge.

Stormwater management: The plan proposes to maintain and rehabilitate some of the existing drains and to construct new ones in areas where there is an urgent need.

Solid waste management: The action plan proposes to improve the traditional practices of composting. In addition, an inorganic waste management system involving proper collection, transportation, and disposal and recycling of plastic waste for local industry will be established.

Health and hygiene issues: Nala lacks awareness in health and hygiene issues. Community trainings, exposure visits and thematic group initiatives were conducted as accompanying 'software' measures to improve sanitation behaviour practices in the area. To encourage these activities, school level eco-clubs, women's group mobilization and interventions by female community health volunteers were proposed.

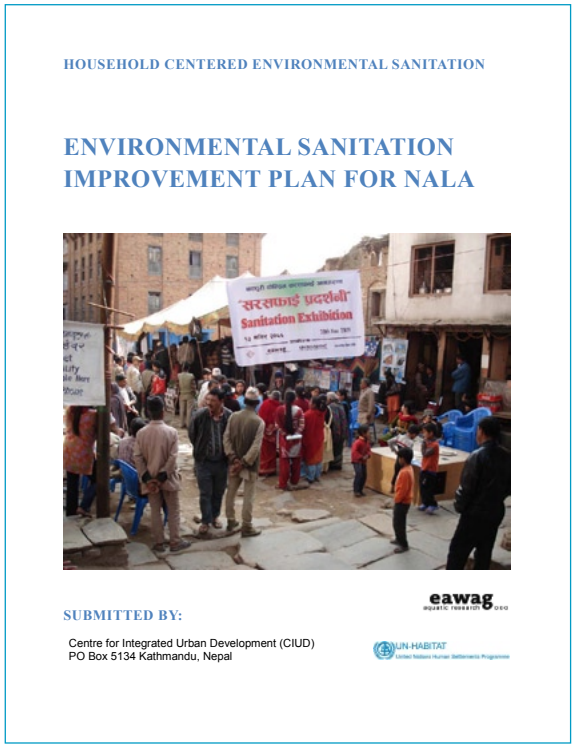


Figure 8:
Cover page of the environmental sanitation improvement plan for Nala, Nepal (Source: Sandec).

Step 7: Implementation of the Action Plan

This last step is about linking action to investment plans and is not, strictly speaking, part of the planning process. The goal of this step is to implement the CLUES action plan developed in step 6. This includes the translation of the action plan into work packages which ultimately become contracts for implementing the service improvements. Several arrangements are applicable for the implementation of the plans, the most common being through private sector contractors based on competitive tender procedures, or through community contracting. Independent supervision of the construction works will play a crucial role in ensuring quality of the works. The final stage of step 7 is the implementation of the O&M management plan.

It is important to include both short-term action and long-term objectives. Achieving rapid progress on selected short-term actions to build legitimacy and sustain commitment is crucial for early success. Start with improvements that can be implemented fairly easily while demonstrating clear benefits (so-called "low-hanging fruits").

What to do & how to do it?

The implementation phase is typically divided into four sub-steps:

7.1 Development of detailed construction and monitoring plans
7.2 Procurement and contracting
7.3 Implementation, supervision and commissioning
7.4 Inauguration ceremony

Sub-Step 7.1: Development of detailed construction and monitoring plans

The first step consists of ensuring that responsible stakeholders are ready to implement the plan. Regular meetings should be held with representatives of the various stakeholder groups who have responsibilities for individual plan components (e.g. solid waste management group, waste emptiers, etc.). Based on the action plan, the next task is the development of more detailed work plans for the different project components, including:

- **Physical works** with detailed drawings of standard system components (e.g. manholes, latrines, drain cross-sections etc.), plans showing sewer layouts, solid waste collection points, composting plants etc., technical specifications (e.g. type, quantity and quality of materials to be used), and detailed cost estimates.

- **A monitoring plan for construction** with intermediate and final targets, timeline, budget, feedback and adjustment procedures, sanctions, responsibilities, etc. A good monitoring plan is essential for quality control during the implementation phase.

It often makes sense to divide the work in several packages which can be managed by a number of smaller contractors or CBOs rather than assigning all works to a single institution or contractor. These work plans should be produced in the first language of the people who are going to be responsible for the implementation and operation of the work.

The final plans will need **approval** by the relevant authorities, and donor agencies (if applicable). The plans have to be approved in terms of costs and technical specifications. The use of standardised design and cost estimation procedures will significantly simplify the approval of the plans. In absence of standardised procedures, it is advisable to get formal approval of your bills of quantities (see Sanitation Costing Tool, T20) in an early stage of the planning process. This will significantly speed up the approval process at this stage.

Sub-Step 7.2: Procurement and contracting

The goal of this step is to award the different work packages to those who are most suitable for their implementation. There are a number of options to organise the construction of infrastructure, whereas the source of finance will strongly influence the type of implementation and approval procedure[4]:

- Award to an established contractor through a process of competitive tender (private sector)
- Award to community groups who will be directly involved in construction work through community contracts (civil society)
- Delegate to government through departmental works procedures (public sector)

Private sector implementation

The most common practice is **to involve the private sector** in the implementation of works. In this case, there are 3 possible contractual arrangements (Tayler et al., 2003):

- **Agreement between households (or community) and contractor** – The private contractor or NGO provides a service (often just labour and tools) based on a simple verbal agreement.

- **Contract based on lump sum** – The private contractor or NGO quotes a lump sum for the provision of labour, tools and materials. This approach introduces the need to check that materials provided are satisfactory.

- **Full contract based on detailed plans** – The private contractor or NGO quotes prices against a schedule of standard items such as trench excavation, laying sewers, constructing manholes, etc., based on a competitive tender. An example of a tender document is presented in tool T26.

Defining good contracts is not an easy task. They are often too simple or too complex. In both cases, contracts are not used to clarify roles or solve conflicts. For conventional client-contractor relationships involving minor scope of works, internationally recognised contracts can be used (see tool T27).

Community contracting, i.e. awarding contracts to organisations with locally hired workers such that resources are retained within the community, jobs are created and ownership of the project is generated. There are 3 kinds of community contracts:

- Labour only – representatives of the community employ local labour. All other activities will be undertaken by an external team or contractors;
- Labour and material – the community contractor employs local labour and purchases material needed for construction and maintenance;
- Full contract – the community contractor performs all functions: labour, materials, equipment, tools and monitoring.

An example of a full community contract (content and structure) is presented in tool T28.

Public sector implementation

For programmes implemented through district or municipal governments, it is important not to invent new procedures which are significantly different from those which are commonly used. The government usually has clearly defined procedures, the most common of which is to award the work to established (private) contractors through a process of competitive bidding. Another option is that the government or municipal works department itself takes responsibility for purchasing materials, providing labour and managing construction. This option is discouraged by international agencies as it is prone to corruption (Tayler et al., 2003).

[1] Adapted from Cotton and Tayler, 2000.



Figure 9: Community self-help efforts - preparing the ground for the decentralised treatment plant (constructed wetland), Nala (Nepal) (Source: M. Sherpa).

Sub-Step 7.3: Implementation, supervision and commissioning

As process leader, your main task prior to implementation will be to ensure that good oversight and management structures are in place. Good monitoring and supervision arrangements can support the early identification of problems during implementation. It is strongly recommended to establish an independent monitoring committee with technical expertise. This committee should include neutral outsiders; however, it is important that these are given guidance and appropriate training.

Once implementation is finalised, emphasis should be placed on commissioning and acceptance of construction prior to initial operation. The approval process will very much depend on the type of physical intervention:

- Improvements at household level must be approved by the households; it might be advisable to provide technical expertise to support residents.
- Improvements to local facilities (such as tertiary drains and sewers, shared sanitation blocks, etc.) should be commissioned by the local authorities, in consultation with community representatives and with the support of the municipal engineering department.
- Improvements to higher-level facilities should be based on certificated testing, pre-defined in the contract. Community representatives should be invited to the certificated testing.

Who should be involved in implementation, supervision and O&M?

Responsibilities for implementation and supervision will strongly depend on the nature of the works and type of contracting. The following table shows possible options for implementation, supervision and for O&M of new works.

	Type of activity	Responsibility for supervision	Responsibility for implementation
Physical interventions	Improvements to household facilities	Technicians, municipal staff	Residents or locally hired contractor
	Improvements to local facilities (tertiary drains and sewers, shared sanitation blocks, solid waste collection points, etc.)	Community organisation WASH committee Municipal engineering dept. NGO	Locally hired contractor Community group WASH committee Government through departmental works procedures
	Improvements to higher-order facilities	Municipal engineering or other department Consultant on behalf of above	Contractor Government through departmental works
O&M	Household facilities	Householder or locally hired entrepreneur	Householder or locally hired contractor
	Neighbourhood facilities	Community organisation WASH committee Municipal engineering dept.	Community organisation WASH committee Contractor or line agency
	Higher-order facilities	Municipal engineering department or appropriate line department Private-sector operator (through PPP agreement)	Municipality or appropriate line department Private sector contractor

Table 1: Overview of responsibilities for the implementation and supervision of physical interventions and O&M plans (adapted from Tayler et al., 2003).

Sub-Step 7.4: Inauguration ceremony

After the finalisation of the construction works, an inauguration ceremony can be organised. Such an event can generate public interest and increase awareness and ownership of the project within the community. It offers the possibility to positively influence institutional decision-makers which so far have been reluctant about the CLUES approach. Tool T4 provides information and hints for the preparation of such an event.

STEP 7 TOOLS

T4 Organising Meetings, Events and Workshops

T20 Sanitation Costing Tool

T24 Sample Operation and Maintenance Documents

T26 Bidding Documents for Construction Services

T27 Standardised Short Contracts

T28 Contents of a Community Contract

Caution

Community contracts can be very suitable for improvements to household or local level facilities, but community contractors may carry more risk than private contractors. Community contractors are not likely to obtain bank guarantees or insurance bonds.

In most cases the detailed plans and work packages will need approval by the relevant authorities or from donor agencies. Try to get approval for the bill of quantities of specific technologies (see tool T20); this will enable you to streamline approval procedures during step 7.

The community can play a significant role in operating and maintaining its new infrastructure and services. In order to do so, the community will require training. It is strongly recommended to provide practical training to those who will be responsible for O&M, i.e. providing guidance and on-the-job training during the first year of operation.

Main outputs

- Physical works implementation proposals
- Implementation monitoring plan
- Tender documents and contracts
- Environmental sanitation infrastructure constructed, installed and in operation
- Execution of O&M plan, including training
- Final project documentation, including reports, posters, videos, maps etc.
- Inauguration ceremony, publicity

Example for Step 7

Implementation of the Action Plan in Hatsady Tai, Vientiane, Laos

In Hatsady Tai the environmental sanitation action plan developed in step 6 was devided into three work packages: household infrastructure improvements, stormwater drainage and domestic wastewater collection and treatment infrastructure. All three were implemented by a local construction company in 2009, contracted based on a competitive tender. The solid waste management concept was implemented by a governmental agency with expertise in participatory solid waste management projects. Service management regulations and O&M procedures, including training, were done by the project coordination committee. The Village Environment Unit (VEU), under the lead of the village head and with the support of a municipal engineer, supervised the entire implementation process.

Figure 10:
Upgrading stormwater drains in Hatsady Tai, Laos in 2009 (Source: Sandec).



PART 2

Creating an Enabling Environment

The following section helps you to assess and foster favourable conditions for environmental sanitation planning in challenging urban environments. Most of the critical elements to support an enabling environment should be identified or become evident during the planning process. Ideally these elements should be identified, at least in broad terms, prior to starting the planning and consultative process (step 2 in the 7-step programme), so that the entire process does not start off with unrealistic expectations or misconceptions.

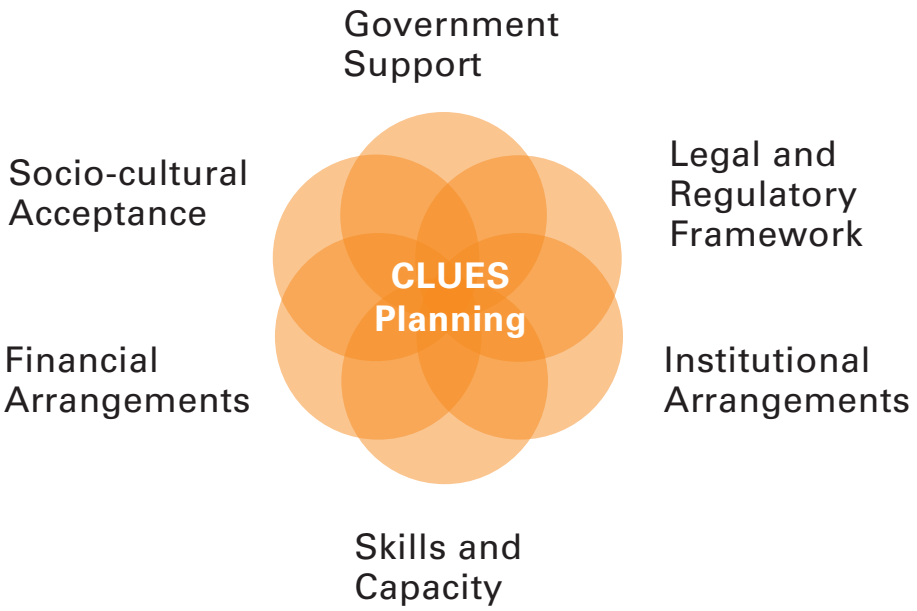


Figure 11: The six elements of the enabling environment.

1. Government Support

The extent to which an environment will support or hinder the application of the CLUES approach will strongly depend on the support of key political players as well as on the national policy and strategies for the sector.

Political support is often assumed, but rarely specifically assured prior to project implementation. Clear commitment within municipal government to improve services for all, especially the poor, is a key precondition for the success of CLUES based initiatives. Lack of explicit political support is often the initial cause for project failure. Unless there is a governmental commitment towards increasing community participation and decentralisation of service provision, translated into national sector policies and strategies, projects based on the CLUES approach will be isolated and vulnerable. A proven political commitment to decentralise decision making, service provision and promote community participation, which is supported by the highest levels of government and the top management of the sector agencies, is an important precondition for an enabling political environment.

How to analyse existing government support?

Government support can best be assessed by critically reviewing the national policy framework to see how it affects the provision of environmental sanitation services. There are usually several relevant national policies and local strategies that should be examined, e.g.: National Poverty Eradication Strategy, National Environmental Protection Strategy, Water Tariff Policy, Urban Sector Development Strategy, Urban Wastewater Strategy, City-wide Strategic Sanitation Plan, Socio-economic Development Plan, and others.

Critical questions that you should answer include:

- Is increased access to safe water and sanitation for all recognised by the government as important for socio-economic development?
- Is the geographic focus of the project in line with the governmen's socio-economic development policy (e.g. urban upgrading areas)?
- Is there a general decentralization movement underway? Does the government promote decentralization of environmental sanitation service delivery functions, including the participation of the private sector?
- Is there a policy which promotes affordable service provision to unserved areas?
- Do existing policies promote community participation in activities related to environmental protection and service provision?

How to ensure government support?

If political support is not yet assured, the greatest challenge will be to convince relevant policy-makers that the CLUES approach has the potential to contribute to the government's long-term development objectives. If you are working with receptive local authorities it may be worthwhile to have all stakeholders sign up on a municipal sanitation charter. Such a charter sets out the principles and responsibilities of key parties in delivering sustainable sanitation in urban areas. A good example is the International Water Association's Vienna Charter on Urban Sanitation. For the full charter go to the website www.iwahq.org and type "charter".

The project leadership should plan to devote considerable effort to sensitising elected officials, senior sector staff and advisers to the CLUES concepts perhaps through seminars, presentations, and visits to demonstration projects. You might not get unconditional endorsement of the approach, but try to secure an agreement that the CLUES approach should proceed in the programme area and will be fully supported. Without the support of the municipal leadership, and its willingness to take the steps necessary to support an enabling environment, application of this planning approach should **not** be considered.

2. The Legal and Regulatory Framework

Laws, regulations, standards and codes define in greater detail, within the overall policy framework, how the government expects the sector to perform its functions. Regulations specify how services are to be provided and by whom, what delivery standards have to be met, ownership of infrastructure and services, and how tariffs and other cost recovery methods are to be designed and implemented. Standards and codes specify, for example, the level of wastewater treatment needed to protect the quality of receiving waters, the design of sanitation technologies, or the quality of material and equipment to be used in the performance of environmental services.

For the 'Legal Framework' to contribute to the enabling environment, it must be transparent, realistic, and enforced.

In many lower-income countries, legislation related to environmental management and environmental sanitation service provision has evolved quickly over the past decades, with inconsistencies in different laws as a result of different ministries leading the development of sectoral legislation. Principal inconsistencies include overlapping mandates given to different ministries, lack of implementing regulations and supporting standards and, of course, the issue of poor enforcement of regulation even where it exists. Many existing regulations and standards are based on those developed in industrialised countries (in the wastewater domain e.g. range of accepted technologies, sewer diameters, effluent standards, wastewater reuse regulations, etc.), under conditions totally different from those in developing countries, and so they are not appropriate. If there are laws which prevent the installation of a certain technology, or standards which have become norms over time, it may be very difficult or impossible to introduce a new system.

Preconditions that must be in place to support the CLUES process include:

- The right of users to be involved in the decision-making process;
- The right of municipalities to collect taxes or local fees;
- The possibility of local structures (community-based organisations (CBOs), user associations, etc.) to manage services including operation and maintenance, and the control of funds collected from users;
- Laws that allow the private sector to be involved in service provision;
- Realistic technical norms and standards that allow the use of affordable technologies.

How to analyse the existing legal and regulatory framework?

An assessment of the legal framework is important since governments often transfer responsibilities administratively, but withhold the legal and financial authority to meet those responsibilities. Information on laws, norms and technical standards should be available with specialist agencies and government departments. Special attention should be given to legislative texts which regulate the responsibilities of the different line ministries and related agencies in the field of water supply, environmental sanitation and urban planning, and laws and regulations which promote or prohibit community participation in activities related to environmental protection.

Examples of **national and local (by-)laws and regulations** that should be critically assessed include:

- **National laws** related to the environment, to water, wastewater and water resource management, to urban planning, to solid waste management, to hygiene and health promotion, treated water and sludge reuse in agriculture, etc.

These laws will regulate the institutional responsibilities in the provision of environmental sanitation services (ESS) including the role of local authorities, the community and the private sector.

- **Health codes** describing the type and/or design of sanitation services. This could be especially relevant to wastewater reuse.
- **Local building codes** which specify the way in which plumbing, water connections, and/or sewer connections are installed. This is crucial for contractors as companies may be unwilling to implement innovative techniques or may set irrationally high prices to cover possible risks in case of failure to meet the building codes and standards.
- **Tariff regulations** defining the rights of the different administrative entities to define, collect, and manage fees and taxes for environmental sanitation services.
- **Water and wastewater quality regulations** defining the levels of different pollutants (e.g. pathogens, organic matter, metals, chemical compounds, etc.) that can be present in water, depending on the use (e.g. drinking water, irrigation water, flushing, etc.).
- **Land application laws** which limit and/or define the type and/or amount of treated wastewater, sludge or biosolids which can be applied to a certain area of land.
- **Land tenure legislation**, provisions for land tenure regularisation in informal settlements.
- Formally approved urban development or urban **master plans**.

Technical Standards can be another obstacle to the use of more appropriate and less expensive systems and technologies, such as:

- **Sewer standards** specifying the diameter, minimum flow, material, burial depth and other design parameters.
- **Building standards** prescribing certain technologies (e.g. double-pit pour flush latrines in India).
- **Wastewater treatment standards** specifying treatment steps or imposing specific treatment of the effluent (e.g. chlorination).
- **Water supply standards** specifying minimum pressures or pipe sizes.
- **Drainage standards** specifying the slope, type and material of permitted stormwater drains.
- **Solid waste management standards** regulating waste collection, transportation and treatment/disposal options.

BOX 6: Reality check

The relevant stakeholders should be consulted to determine how reality compares to the written procedures. Building inspectors, plumbers, contractors, municipal engineers and planners, and officials from the relevant ministries (e.g. environment, housing, construction, health, etc.) will all have invaluable information about what they would accept and approve in practice. It is advisable to expose relevant decision-makers to your preliminary assessment to correct and amend it. This might be done in the framework of the official launching workshop (step 2).

How to adapt the legal framework and technical norms?

It may become apparent that some laws, regulations or technical norms could hinder the CLUES process. Changing legal texts and technical norms takes time – sometimes years in the case of redrafting legislation. After reviewing the current status and the possibilities for change, you should decide whether or not there is a sufficiently enabling legislative environment in which to proceed. There are three basic steps to overcome hindering legal texts and technical standards:

1. **Legal conformity:** Critically review, in consultation with key stakeholders (especially the relevant sector agencies), the extent to which appropriate or low-cost technologies differ from those specified in the regulatory texts. You might come to the conclusion that the divergences will be minimal and legally irrelevant.

2. **Exposure of key decision-makers to alternative systems:** During the consultation process mentioned above, you might come to the conclusion that existing standards are obsolete and need to be reviewed (e.g. technical standards on septic tank design might not be state-of-the-art and do not contribute to safeguarding environmental and public health). The process of changing technical norms is very slow, and requires that all relevant authorities be involved in the formulation and approval of the norms. Exposure of key decision-makers to alternative systems, e.g. through study tours and field visits, or through the organisation of scientific seminars on innovative approaches and technologies, might help in catalysing the process. Do not work alone in this difficult endeavour, but try to involve local universities and research institutions in the process as much as possible.

3. **Moratorium:** The last and most straightforward strategy to deal with hindering laws and technical norms is to negotiate an agreement with the relevant authorities (most probably municipal or national sector agencies) that secures a moratorium on the application of conflicting standards to the programme area. If the project is successful, it can serve as a demonstration site and help in the process of identifying standards that would be more appropriate.

3. Institutional Arrangements

The application of participatory, community-centred approaches requires an institutional environment within which the various institutional levels can function effectively. The institutional framework of a CLUES project or programme will encompass the households, CBOs, possibly other NGOs, and both the public and private sector. Prior to defining institutional arrangements for your project, it is important to understand the current roles, responsibilities and capacities of the different stakeholder groups in the provision of environmental sanitation services, their influence, their interest and importance in participating in the project.
Stakeholder groups which will typically be involved in a community-centred approach are:

1. **Members of households**, the most important stakeholder group, and the one that decides on the need for investment in sanitation facilities;

2. **Local councillors**, often responsible for a significant part of municipal revenues for spending on local improvement works;

3. **Local schools**, school teachers and pupils are important multipliers for behaviour change;

4. **Community-based organisations (CBOs)**, often engaged in self-help activities or in providing affordable services for communities;

5. **Municipalities**, with a statutory responsibility for a wide range of service provision including O&M;

6. **Provincial or district authorities**, e.g. District Water Engineers;

7. **Community-level authorities:** community leaders including religious leaders;

8. **Urban development authorities**, often involved as a partner in urban environmental sanitation service improvement programmes;

9. **Specialised line agencies**, e.g. water supply or urban environmental management agencies or utilities, with varying jurisdictions depending on the legislative framework;

10. **Non-governmental organisations (NGOs)**, acting as intermediaries between government and local communities, and partly involved with service delivery;

11. **Private service providers**, providing services informally (e.g. manual or mechanical faecal sludge emptiers; small entrepreneurs collecting solid waste) or formally (e.g. private water supply and sewerage companies or microfinance institutions);

12. **Urban and peri-urban farmers** who have an interest in access to safe and affordable fertilisation and irrigation using organic and liquid waste.

Figure 12 provides an overview of the main stakeholders that should be involved in a community-led planning approach, according to the corresponding urban domain. Depending on the context, other stakeholders may be involved as well.

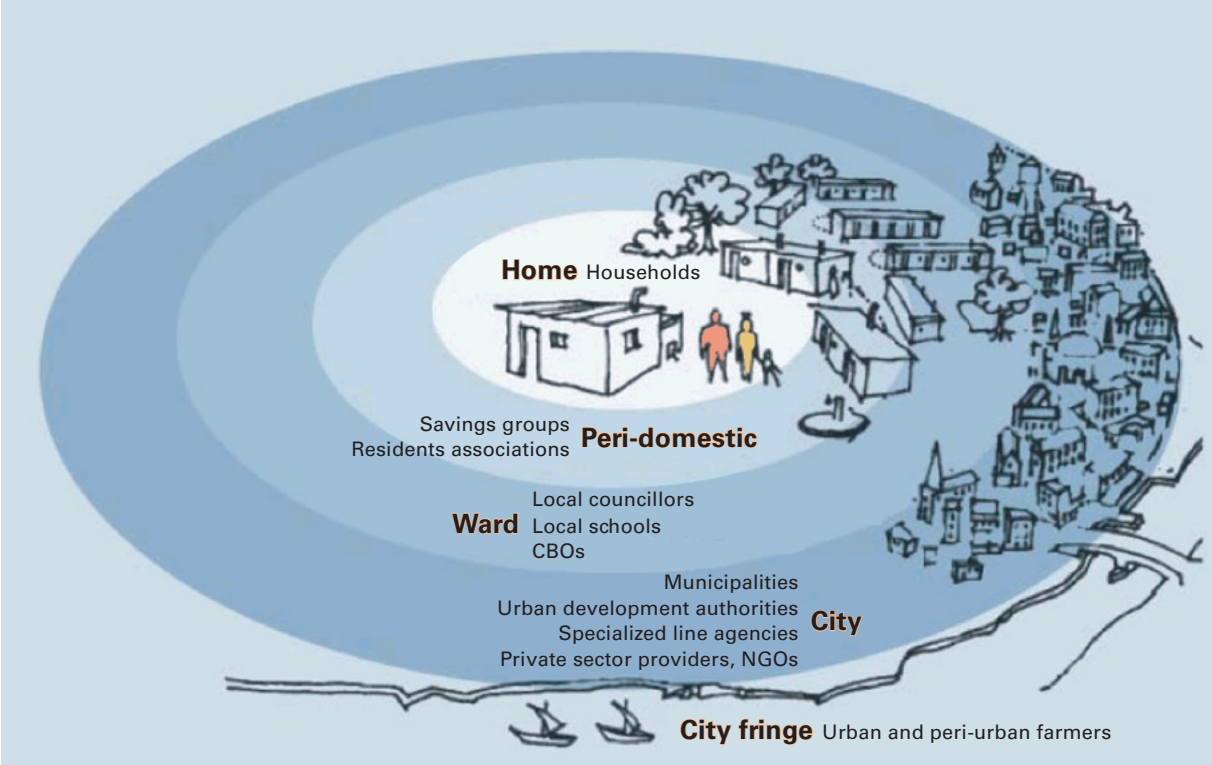


Figure 12: Urban domains and related stakeholder groups (adapted from WELL, 1998).

How to analyse institutional arrangements?

During a CLUES planning process, you should assess the responsibilities, capacities (strengths, weaknesses, potentials) and interests of the various stakeholders who might become involved (e.g. NGOs, CBOs, private service providers, etc.). The assessment of current institutional arrangements will help you identify opportunities to build upon existing links and capacities. For example, if government agencies have a long experience of working with NGOs or universities, they may be more open to innovative ideas. The main questions related to current institutional arrangements are who has decision-making authority in service provision and to what extent does the current institutional framework allow for delegation of responsibility and authority to other levels. The review of existing policies and the legal framework discussed above will provide information on the responsibilities and legal authority of the different institutional stakeholders, and will help in defining an institutional setup that fits the purposes of your CLUES intervention. At a more local level the aim should be to identify individuals already working on aspects of service provision.

Key questions that you will need to answer in order to assess the institutional environment are listed here:

- How are decisions currently made in services provision and who is involved?
- What is the role of public sector agencies, i.e. who regulates and monitors, who protects the users and customers, who provides the services, etc.?
- To which extent do public sector agencies have conflicting or overlapping mandates, and how are these conflicts solved?
- What are existing synergies and linkages between different stakeholders – is there a productive working relationship between community-level initiatives and public sector agencies, e.g. a Water/Sanitation Coordination Committee at the city level?

- Are these agencies aware of their respective roles and responsibilities, and do they fulfil their obligations?
- Are there existing public investment plans for the project area?
- What is the current level of community-participation in urban environmental managment?
- Is the private sector involved in service provision? How so?
- Which NGOs and CBOs are involved in urban environmental management? Are they familiar with each others' activities?

  Which community members and institutions have substantial influence among their peers? You will need to understand the institutional structures that can facilitate the planning and management of environmental sanitation services sustainably. Tool T5 provides guidance on how to conduct a participatory assessment of current institutional responsibilities, and the importance and interests of the different stakeholder groups in the planning, implementation and management of environmental sanitation services in your project area.

How to define appropriate institutional arrangements?

Though the ideal group of partners may not come together to support the project, it is possible to proceed so long as it seems that there is potential for progress and that none of the key institutions will actively work against the project. If the latter is the case, it may take significant time to negotiate an agreement, build trust or in the worst case, the project may have to be put on hold until the specific hindering elements are identified and adequately addressed.

If you find that there are responsibility gaps, overlaps in mandates, or non-cooperative key stakeholders, you might do some of the following:

- Hold group discussions with key stakeholders to determine how non-supportive partners can be re-engaged;
- Arrange written requests to key stakeholders by a respected community leader of the project area;
- Draft memorandums of understanding between different institutions to clarify roles and responsibilities, especially when it comes to working in different districts, wards, townships, etc.;

BOX 7: Involving the private sector

Many well-intentioned projects in the past have failed because they didn't fully involve the private sector – the small businesses and entrepreneurs making an important contribution to affordable urban services. The private sector frequently has a large, often informal, role in providing environmental sanitation services. You should identify and address obstacles to the participation of small-scale private sector entrepreneurs in project delivery.

These obstacles may include:

- **Informal nature of the businesses (i.e. non-compliance with basic legal requirements)**
- **Unrealistic bidding procedures (often too complicated)**
- **Delays in payment for work undertaken for the municipality**
- **Difficulties in obtaining credit or working capital**
- **Lack of access to specialised equipment and machinery**
- **Lack of access to training**

Figure 13: Small businesses have an important role in service delivery. Sludge emptying services in Bamako (Mali) (Source: S. Bolomey).



4. Skills and Capacity

Adequate knowledge, skills and capacities are an essential part of the enabling environment for the implementation of CLUES. CLUES is a novel approach that requires specific skills such as participatory project management, negotiation and problem solving skills, stakeholder coordination, conflict resolution and community organisation. It is important to identify institutions and/or agencies that have a high level of capacity to conduct the process management aspects of the project as well as have the necessary technical skills.

In order to ensure an enabling environment, there must be adequate capacities in terms of project administration, mediation, community-involvement, health and hygiene promotion, as well as civil and environmental engineering to implement the project.

How to analyse existing skills and capacity?

When conducting the stakeholder analysis described in section 2.3 "Institutional Arrangements", you should also critically assess the capacities in terms of strengths and weaknesses of the different stakeholders, especially those who might be involved in the planning, implementation and management of environmental sanitation services. This process might be conducted in a participatory way, e.g. through self-assessments of strengths and weaknesses by the stakeholders, and through participatory training needs assessments. The following list of required skills and capacities for different stakeholder groups will help in assessing these training needs:

- **Municipal officers and sector specialists (i.e. planners, engineers)** should have the capacity to coordinate the planning process, understand the social, institutional and financial environment during the planning and implementation process, and be familiar with appropriate technical design options for urban and peri-urban areas. More generally, they will have to be aware of, and where appropriate, familiar with existing legal frameworks, regulations, codes and standards and the range of technical options available (including cost, environmental and management implications). They should also have the capacity to organise meetings and run them in a participatory manner.
- **NGOs** that become involved in the programme need similar capacities, but at a more advanced level, as they will likely be responsible for training the participating communities. They must be familiar with the social factors affecting the selection and proper use of environmental sanitation services and with supporting communication strategies. They should be capable of brokering functional relationships between mandated institutions, the communities and private service providers. They should also be able to collect and analyse data and produce high-quality reports.

- **Formal private sector service providers** (often commercial operators with a public mandate) play a significant role in the formal provision of environmental sanitation services. Their status, viability and service quality depend on a range of skills such as business management, ability to prepare competitive bids and loan applications, knowledge of how to analyse and respond to market demands and knowledge of technical options and the regulatory framework.
- **Informal private sector service providers** are mostly unregistered service providers that have a huge range of training needs from business management to better technical skills.
- **Local interest groups such as urban and peri-urban farmers** need an understanding of land rights, skills in safe and sustainable techniques (e.g. for the fertilisation and irrigation with solid and liquid waste), skills in the management of natural resources and marketing of their products.
- **Residents** need to understand the implications of the environmental sanitation options available to them (in terms of convenience, cost, operation and maintenance requirements), technical support needs and availability, appropriate and sustainable hygiene practices, and so on. They also need capacities to exert quality control over local builders and contractors and to ensure that project costs remain within realistic levels.
- **Community-based organisations (CBOs)** or community groups which in certain instances may undertake construction, O&M and/or management of certain environmental sanitation services (ESS) may need training on technical matters, simple financial management, basic contract procedures, and/or monitoring and reporting.
- **Health workers**, e.g. public health nurses, local doctors or community health promoters, should be able to explain the basics of sanitation and hygiene.



Figure 14: Capacity building session for local NGOs in Nala (Nepal) (Source: Sandec).

How to develop the required skills and capacity?

At the initial stages of the planning process after identifying capacity gaps, you will need to develop and implement a strategy to build the capacity of the different stakeholder groups. The strategy chosen will strongly depend on the size of the CLUES programme and its financial framework. In smaller projects, training should focus on the needs of the process and primary stakeholders, but a strategy must be defined to ensure that training continues after project completion. The plan must be prepared carefully, with adequate financial resources. Training is expensive, but worthwhile. Do not make the mistake of focusing on infrastructure while neglecting project management skills. Experience suggests that an appropriate allowance for initial non-infrastructure related costs may lie in the range of 10% to 30% of capital costs (Peal et al., 2010).

You should, as much as possible, make use of existing resource centres and local capacities to fill capacity gaps. For example, local universities can be instrumental in promoting advanced technologies and influencing public opinion, municipal health departments might provide support in health and hygiene promotion campaigns, sector agencies might have permanent training departments, or local NGOs might be specialised in organisational development. It always pays off to involve experienced volunteers. Training should not be treated as isolated events, but integrated into the action plan development, so that training reinforces practice and vice versa (see step 6 on page 39).

The following list highlights methods that can help build capacities required on a local level:

- Set up an exhibition to show models of different toilet options and hand-washing equipment;
- Organise field trips to see other communities / cities with alternative systems;
- Organise specialised workshops on data acquisition, processing and interpretation, community consultation methods, participatory planning methods, gender issues in en vironmental sanitation services and presentation skills;
- Organise multi-stakeholder technical work shops with engineers and planners to explain the technical details of some of the sanitation options that they may not be familiar with;
- Organise technical training for community members or their organisations (CBOs) who wish to be involved in the implementation and O&M of environmental sanitation services;
- Conduct training for local craftsmen in the production of required parts;
- Use religious leaders and structures to disseminate information and improve people's environmental sanitation behaviours;

5. Financial Arrangements

Implementing or upgrading urban environmental sanitation services is costly. The willingness of the different partners to contribute both money and time should be assessed early on, to ensure an enabling financial environment. Financial contributions and investments will be required from the community, from governmental agencies, and from the private sector (such as companies taking on solid waste treatment and disposal, or producing components for latrines). When estimating the project costs, all aspects must be taken into account, such as administrative, hardware costs (including extension and upgrading), training, social marketing programmes, knowledge development and information sharing and any O&M needs.

The majority of capital investments for urban infrastructure are still funded by central governments and/or international development agencies. While many policy-makers believe that the urban poor do not have the means to pay for environmental services, several studies (e.g. Whittington, 2010) demonstrated the capacity and willingness of these groups to generate funds for the payment of services once they understand the benefits and have a voice in the selection and management of the services. However, there should be no misconceptions about how much and for how long payments must be made. Therefore, an understanding about the 'financial arrangements' should be generated during steps 3 and 4 of the process.

External support can encourage community-based financing, but must do so without negatively distorting community expectations. Innovations in funding basic infrastructure, such as micro-credit systems or community development funds, are promising but still widely untested funding tools in most countries. It is of paramount importance to assess the community's willingness and ability to pay prior to proposing funding schemes in a given context for:

(i) up-front hardware construction (e.g. new toilet facilities), and
(ii) long-term maintenance costs (e.g. regular emptying services).

Not only do the technical solutions have to be context-specific but the funding and cost-sharing arrangements must be as well.

Common problems limiting the financial sustainability and long-term operation of service provision include:

- Limited institutional capacity of municipalities to mobilise funds (e.g. via taxes) and to collect fees;
- Limited autonomy of public or private service providers to generate sufficient funds to ensure that existing systems are properly managed. They have difficulty achieving creditworthiness to access credit, even if credit is available;
- Nature of ownership – most sanitation infrastructure at the point of use is located on private property, making it difficult to attract public subsidies.
- Difficulties among users in obtaining funds for constructing household facilities (e.g. relating to the high cost of sanitation facilities in most African countries)
- Users' willingness to pay is generally confined to the parts of the urban infrastructure that will directly benefit their neighbourhood; users tend to be less willing to cover full recurrent costs for off-site treatment and disposal;
- Political control and use of funds for special interests (especially before elections)
- Dependency arrangements – most sanitation programmes are supply driven, heavily subsidised by both governments and development organisations.
- Failure to develop a sound O&M financing plan and generate maintenance funds over time.

A further infrastructure financing issue to consider is corruption. The abuse of power for private benefits imposes important economic, social and political costs on society and thereby undermines development. Unfortunately, the construction and infrastructure sector belongs to the sectors that are prone to foul play. However, the checks and balances outlined in this document provided by civil society institutions such as non-governmental organisations, community-based organisations and community representation in CLUES planning and implementation can go a long way towards preventing corrupt practices and supporting transparency.

How to analyse existing financial arrangements?

An initial assessment of financial resources and arrangements can be built around the following questions:

- Is there clear information on the current financial capacity of the municipality and the targeted community?
- What are the possible public and private sources for capital (infrastructure development) and expenditure (O&M) financing and how might they be tapped?

For the 'financial arrangements' to contribute to the enabling environment, they must be locally anchored, easily accessible and sustainable, i.e. ensure full cost-recovery.

- How much are users already paying for services? How much would they be willing to pay for improved services?
- Would it be possible to raise funds locally, and how?
- Are private sector organisations such as banks or micro-finance institutions willing to provide funds or grants for environmental sanitation service improvements?

A baseline survey along with official statistics will help to inform you about the economic situation of the community in question, i.e. their current financial contributions to sanitation services, and their ability to pay for improved services. Rarely will a community be able to pay for the capital costs of an integrated infrastructure upgrading scheme alone. The success of a CLUES project will also depend on the capacities of local authorities to generate revenues. Without additional revenues supporting infrastructure upgrading it will be almost impossible to achieve full cost recovery and thus sustainability of these new services. Sources of capital financing, that deserve exploration include:

- **National or provincial grants** and budget allocations, e.g. within the context of a 5-year development plan or similar national framework;
- **Municipal funds**, e.g. to provide operating subsidies to meet annual O&M costs;
- **Targeted government funds**, available to successful applicants in various countries (e.g. Environment Protection Fund, Poverty Eradication Fund, Small and Medium-sized Enterprise Promotion Funds);
- **Credits** from private or parastatal banks;
- **Revolving funds**[5] administered through a local NGO/CBO or financial institution, such as self-help housing loans or micro-credit systems;
- **Private sector** involvement, i.e. transferring the burden of capital financing to the small, medium and large private sector industry which will recover its costs either from the service provider or from the users directly;
- **Capital financing by users**, either in cash or in kind (typically labour and materials), mainly at the household level.

[5] A revolving fund is money that is raised with a certain purpose, e.g. for toilet facilities, in which 'revolving' means that the fund's resources circulate between the fund and the users.



Figure 15: Discussing a revolving funds initiative for sanitation in Nala, Nepal. (Source: Sandec).

Key institutional stakeholders, sector agencies and line ministries will certainly be able to provide information on potential funding sources for the sector. This stakeholder consultation might be conducted in the framework of the CLUES launching workshop (step 2).

If sustainability is to be achieved, then it is of critical importance to assess effective demand of the users for improved services. Effective demand is the term used to describe demand for a service the user wants and is willing to pay for. The effective demand will have to be assessed during step 4 of the planning process (Prioritisation of the Community Problems). Possible methods to assess willingness to pay are listed in tool T11.

How to define suitable financial arrangements?

Rarely will a community be able to pay for the capital costs of an integrated infrastructure upgrading scheme alone. You should therefore guarantee that one or more of the alternative funding sources listed above can be accessed to complement the capital financing by users. Without additional municipal/district or national financing sources, you should seriously reconsider the CLUES project. Experience shows that it pays to start with "low-hanging fruit" in the form of quick-start or pilot projects that are easily implementable and build momentum for longer-term implementation and more elaborate financial arrangements.

Ensuring access to alternative funding sources can be very complicated and time consuming. Options you might consider to raise funds include:

- Writing proposals to the appropriate agencies to apply for project funding.
- Drafting business plans for small business loans to show how and when the funds will be paid back.
- Calling and soliciting members of parliament for funds allocated to water and sanitation improvements.
- Applying for local or district level funds, e.g. community development funds.
- Establishing community-based revolving funds.
- Influencing local financing bodies to adopt "out-of-the-box" lending conditions, e.g. considering household goods as collateral for micro-loans.

The establishment of revolving funds, either under the management of the service provider or independently (e.g. a CBO), is a promising approach to provide funds for capital investments, especially at household level. Two typical examples of revolving funds are housing improvement loans and micro-credit systems (see tool T25 for details).

Sustainability of environmental sanitation services largely depends on securing adequate O&M funding. The number of options to finance O&M is often limited, as O&M costs are usually not directly covered from central budget allocations. Recurrent costs should be covered by the users themselves. This can be either through direct in-kind inputs from the users (e.g. households clean their toilets and local drains, transport their solid waste to the next collection point, establish a management fund to contract service providers etc.) or through funding from service providers' revenues, derived from user payments (service fees, tariffs, municipal taxes). Without reasonable assurance that users are willing and able to pay most if not all recurrent costs, the project should be seriously reconsidered.

6. Socio-Cultural Acceptance

This part describes the willingness of the community to participate in a long-term, habit-changing process. This will include changing mindsets, engrained habits and behaviours. The CLUES approach is strongly based on the assumptions that there is an effective demand by the community for improved services and that there is a commitment of the community to both short-term and long-term participation. It also assumes that the community has the capacities and resources to participate in the CLUES planning process, and that active participation of the community is allowed and promoted by higher-level authorities (i.e. enabling political context).

Achieving socio-cultural acceptance depends on matching each aspect of the proposed environmental sanitation services as closely as possible to the users' preferences. Furthermore, the community must be willing to participate in the planning, implementation and management of environmental sanitation services, accept the decisions of the group and accept that the process will take time.

The precondition for an enabling socio-cultural environment is not only the willingness of the majority of the community to participate, but also their willingness to spend time, energy and money in the planning, implementation and management of environmental sanitation services. Fragmentation between different ethnic groups or generations, ongoing disputes over land or money, or other internal conflicts may hinder or prevent a fruitful CLUES process from taking place, and therefore the socio-cultural environment must be clearly enabling from the start. Care must be taken not to assume that demand for a specific level of service translates into a willingness to participate in the planning and implementation process.

How to analyse existing Socio-cultural Acceptance?

To determine whether the socio-cultural environment is enabling, you should attempt to determine if:

- The community has expressed a clear demand for improved sanitation services and is receptive to new ideas and positive behaviour change;
- Community groups and CBOs already exist and there are locally elected leaders who are credible and respected;
- NGOs have had success implementing projects and working closely with community members in the past;
- Religious and/or traditional leaders are willing to cooperate and actively participate in the project;
- Schools and teachers are willing to cooperate and have the respect of the community;
- Violence and vandalism are not common, and new infrastructure has been well-respected;
- Ethnic groups are cohesively existing and no alarming social or cultural diversity-related conflicts exist (e.g. tensions with immigrants);
- Social-cultural change champions exist – these are elected or opinion leaders who are openly receptive and willing to advocate for a CLUES related initiatives within the community.

The community's effective willingness to participate will be assessed at the first few workshops, especially the launching workshop (step 2). Step 3 (Assessment of current status) and step 4 (Priority workshop) will provide information on the effective demand of the community for improved services, including their willingness and ability to pay. If however, there are obvious social and/or cultural problems in the community, it is worth investigating them before investing significant resources in the project. Experience shows that awareness campaigns, if well designed, targeted and professionally conducted, can substantially increase demand for improved environmental sanitation services, and encourage participation.

PART 3

The Toolbox

The Toolbox contains 30 tailored tools. These can be classified as resource documents and manuals, templates and process tools (such as checklists and examples of workshop agendas) and methodological tools. In this part each tool is described in a one-page summary sheet which explains the purpose of the tool and how to use it. Furthermore, the actual tool resources are introduced. These consist of digital documents (PDF, Word, PowerPoint and Excel files) as well as web links and books. All documents are included on the enclosed USB Key or can be accessed in their latest version on the internet (www.sandec.ch or www.wsscc.org). In the PDF version of these guidelines you can directly open the tool resources by clicking on the respective icons in the tool summary sheets.

Feel free to use and adapt these tools to your individual needs!

Overview of the 30 Tools		Tool Contents
Ignition and Demand Creation	**T1**	An overview of proven community ignition tools.
Interview Methods and Questionnaire Examples	**T2**	Introduction to 3 interview methods: pocket voting, focus group discussion (FGD) and individual interviews for community consultation.
Participatory Assessment Methods	**T3**	Interactive tools for assessing the water and sanitation situation and for conducting participatory mapping.
Organising Meetings, Events and Workshops	**T4**	Guidance for preparing meetings, workshops and other events, with focus on organisational and managerial aspects.
Stakeholder Analysis	**T5**	Participatory assessment tool for the evaluation of relations and conflicts of interests between different stakeholders.
Sample Agenda: Official Launching Workshop	**T6**	A sample agenda of the launching workshop which you can adapt to your own needs.
PowerPoint Slides: CLUES Presentation	**T7**	Presentation of the planning approach for the launching workshop.
Problem Tree Analysis	**T8**	Allows you to define a core problem and visualise cause-effect relationships.
Assessment Checklist	**T9**	Checklist for identifying all key issues pertaining to physical, institutional, technical, and environmental status-quo.
Contents and Examples of a Status Report	**T10**	Provides a table of contents for the step 3 status report and 2 examples.
Assessment of Effective Demand	**T11**	Simplified assessment tool to check if there is real and effective demand for sanitation.
Municipal Solid Waste Management Planning	**T12**	Useful resources and guidelines for the assessment and planning of solid waste management systems.

Overview of the 30 Tools		Tool Contents
Composting Manuals	**T13**	Guidelines on how to plan, implement and operate a composting system and how to sell the products.
Sample Agenda: Expert Consultation Workshop	**T14**	An overview of how to organise and conduct an expert consultation workshop for the discussion of service options.
Compendium of Sanitation Systems and Technologies	**T15**	146-page overview of the most appropriate sanitation systems and technologies that are available. Important tool for step 5.
PowerPoint Slides: Compendium Presentation	**T16**	Presentation that introduces the Compendium and how it can be utilised for informed choice decision-making.
Procedure for the Pre-Selection of Sanitation Systems	**T17**	Helps to narrow down the wide range of existing sanitation technology options to feasible systems during the expert consultation workshop.
Greywater Management Manual	**T18**	Guide to greywater management, which helps in a pre-selection of greywater management technologies.
Surface Water Drainage Manual	**T19**	This tool presents resources on the planning, design, construction, maintenance and rehabilitation of drainage systems.
Sanitation Costing Tool	**T20**	Allows users to estimate costs (capital, labour and maintenance) for selected technologies of the Compendium.
Sample Agenda: Community Consultation Workshop	**T21**	Includes the main points that need to be covered during the community consultation workshop for the discussion of service options.
PowerPoint Slides: Presentation Outline for the Community Consultation Workshop	**T22**	PowerPoint outline for the community consultation workshop which help structure content and issues.
Contents of an Action Plan	**T23**	Contents of an action plan with examples from Tanzania and Nepal.
Sample Operation and Maintenance Documents	**T24**	Generic O&M plans to ensure long-term maintenance, including operational checklists.
Funding Opportunities	**T25**	Overview of promising funding opportunities for infrastructure and services, including micro-finance.
Bidding Documents for Construction Services	**T26**	Templates for bidding documents for implementation of services & infrastructure.
Standardised Short Contracts	**T27**	Selected examples of standardised small scale contracts for community infrastructure projects involving the private sector.
Contents of a Community Contract	**T28**	Explains community contracting and provides a sample contract.
Project Management	**T29**	Tips for project management to ensure timely and cost-effective project implementation at community level.
Monitoring Checklist	**T30**	Monitoring tool to provide guidance during the 7 step planning process.

T1 Ignition and Demand Creation

Summary: This tool provides an overview of promising approaches for igniting or triggering a community and for longer-term approaches that aim to build demand, motivation and ability to address sanitation and hygiene issues. These include Community-Led Total Sanitation (CLTS), sanitation marketing and community health clubs (CHC).

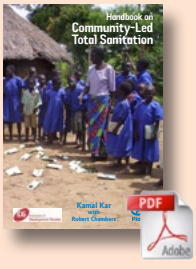
Application Within the Planning Process:
Step 1: Process Ignition and Demand Creation

Related Tools:
T3 Participatory Assessment Methods
T4 Organising Meetings, Events and Workshops

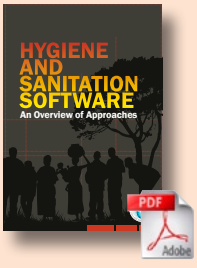
Purpose The purpose of this tool is to provide guidance on selected community ignition and demand creation approaches. The CLTS-based kick-off events in step 1 of the CLUES process should create momentum and a good basis for the community-led planning process. They are most effective in communities with poor hygiene behaviour and prevalence of open defecation. Kick-off events should aim to facilitate the community on a journey of discovery that will hopefully lead to a change of behaviour and achieve mass social mobilisation ("ignition"). The tool also provides information on two longer-term approaches to awareness raising for WASH (water, sanitation and hygiene) in urban contexts: sanitation marketing and community health club initiatives.

How to use this tool? Document D1.1 contains detailed information and recommendations on how to go about community ignition using the triggering step of the Community-led Total Sanitation (CLTS) approach (pp. 20-41). The second resource document is a comprehensive compendium on hygiene and sanitation software (D1.2). It provides an overview of other approaches such as sanitation marketing (pp. 86-94) and community health clubs (pp. 53-56).
Further participatory techniques are presented in Tool T3. Guidance on how to organise a community meeting is provided in T4.

Resources



Document D1.1:
Kar, K. and Chambers, R. (2008). *Handbook on Community-Led Total Sanitation.* Plan UK. London, UK.
D1.1.pdf



Document D1.2:
Peal, A. et al. (2010). *Strategic Hygiene and Sanitation Software. An Overview of Approaches.* WSSCC. Geneva, Switzerland.
D1.2.pdf

T2 Interview Methods and Questionnaire Examples

Summary: This tool presents an introduction to three useful information gathering methods, namely pocket voting, focus group discussion (FGD) and individual interviews. These methods, which can either be used separately or combined, are useful for the collection of information on knowledge, perceptions, practices and preferences of individuals or groups. The tool also explains how to conduct randomised sample surveys and provides sample questionnaires.

Application Within the Planning Process:

Step 1: Process Ignition and Demand Creation
Step 3: Detailed Assessment of the Current Situation
Step 4: Prioritisation of the Community Problems and Validation

Related Tools:

T3 Participatory Assessment Methods

Purpose Three question-based methods for investigating the stakeholders' perspective on environmental sanitation issues are introduced in this tool, and their application and meaningful combination is explained.

In a pocket voting exercise, participants anonymously vote and state their views on sensitive subjects. FGDs serve to elicit norms and values of a group and to assess the broadness of ideas and opinions of their members. Individual interviews can be used to investigate issues that do not arise during FGDs and to research personal attitudes and practices, as well as to obtain data from key informants. Surveys represent one application of individual interviews. In CLUES, the detailed assessment (step 3) comprises randomised sample surveys for the collection of basic statistical information from households. This tool gives practical advice on how to do it and provides questionnaire examples.

How to use this tool? Detailed descriptions of the three methods and information on their appropriate application and combination are given in Document D2.1. D2.2 contains instructions for conducting randomised sample surveys and provides a short generic questionnaire. A sample questionnaire for individual interviews and household surveys are provided in D2.3. Further participatory assessment methods including participatory mapping and transect walk can be accessed in Tool T3.

Resources



Document D2.1:
Interview Methods
D2.1.pdf



Document D2.2:
Conducting Randomised Sample Surveys
D2.2.pdf



Document D2.3:
Sigel, K. (2009). *Household Survey Environmental Sanitation. Questionnaire for the HCES Case Study in Darkhan, Mongolia.* UFZ. Leipzig, Germany.
D2.3.pdf

T3 Participatory Assessment Methods

Summary: This tool contains information on how to conduct participatory mapping exercises and transect walks for the interactive analysis of the urban environment in the target area. Both methods involve community members in the information gathering process.
Participatory Mapping: Assisted by a facilitator, community members develop a map of the target area and visualise features related to environmental sanitation infrastructure (deficiencies) and services.
Transect Walk: Community representatives and members of the planning team walk through relevant neighbourhoods, discussing and recording the environmental sanitation infrastructure and related issues.

Application Within the Planning Process:
Step 1: Process Ignition and Demand Creation
Step 2: Launch of the Planning Process
Step 3: Detailed Assessment of the Current Situation

Related Tools:
T1 Ignition and Demand Creation
T2 Interview Methods and Questionnaire Examples
T8 Problem Tree Analysis

Purpose Participatory mapping (often referred to as community or social mapping) helps to get an overview of the community area, to visualise relevant existing infrastructure and to understand the access of different socio-economic groups to water supply and environmental sanitation services. If the focus of the mapping is on pointing out the spatial incidence of poverty it can be called participatory poverty mapping, and if the focus is on locating deficiencies with regard to the existing situation it can be called problem mapping. Maps produced in an interactive process with the community reveal important information about local conditions and the community's perceptions. They can be used for planning, evaluation and monitoring.
A transect walk can also help to gain an overview of the environmental sanitation situation in the area and deliver insight into the perspective of the local residents concerning associated needs and challenges. In addition, a transect walk can be an opportunity to verify information obtained from a participatory mapping exercise. A "walk of shame" or "walk of disgust" is a variation of the transect walk that is commonly applied in the CLTS approach (see Tool T1). It aims to sensitise residents to problems associated with open defecation practices, creating embarrassment and triggering mobilisation of the community.

How to use this tool? The two methods included in this tool are explained in separate manuals (**Documents D3.1** and **D3.2**). These documents contain detailed information and recommendations on how to carry out participatory mapping and transect walks, respectively.
Further participatory techniques for the collection of information in a community include pocket voting, focus group discussion and individual interviews. They can be found in **Tool T2**. For a situational analysis you could also use the problem tree analysis tool **T8**.

Resources



Document D3.1:
Participatory Mapping
D3.1.pdf



Document D3.2:
Transect Walk
D3.2.pdf

T 4 Organising Meetings, Events and Workshops

Summary: This tool will assist you in preparing and managing meetings, workshops and other group events. It contains information on organisational aspects as well as a checklist of required equipment and things to consider for successful events.

Application Within the Planning Process:

Step 1: Process Ignition and Demand Creation
Step 2: Launch of the Planning Process
Step 4: Prioritisation of the Community Problems and Validation
Step 5: Identification of Service Options
Step 7: Implementation of the Action Plan

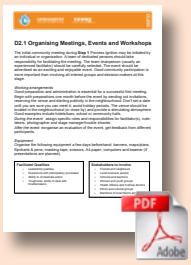
Related Tools:

T6 Sample Agenda: Official Launching Workshop
T14 Sample Agenda: Expert Consultation Workshop
T21 Sample Agenda: Community Consultation Workshop

Purpose A CLUES process comprises several meetings, workshops and events with stakeholders (particularly community members), which all need thorough preparation. Good organisation is the key to successful events. Every gathering is different in its content and agenda, but there are some organisational aspects which should always be considered. This tool aims to summarise these aspects and to provide recommendations on the general framework of events and workshops.

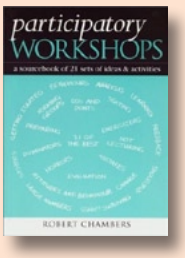
How to use this tool? This tool might not only be of interest for the preparation of the various meetings with open community participation, but also for the expert workshop and the final inauguration ceremony. If you intend to organise such an event, take into account the advice given in **Document D4.1**, which summarises key aspects to be considered. It includes a checklist for required equipment, which you can use to make sure you don't forget anything. If you are interested in further reading about how to successfully organise and manage meetings, workshops and other events, you are highly recommended to read the sourcebook on participatory workshops by Robert Chambers (**Book B4.1**), which is written in an accessible and entertaining language. Nick Wates' handbook on community planning (**B4.2**) also has a great variety of ideas and suggestions for organising meetings and events. **Tools T6, T14** and **T21** are additional helpful resources for structuring the contents of the main workshops of a CLUES process.

Resources

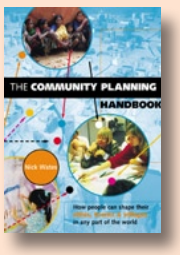


Document D4.1:
Organising Meetings, Events and Workshops
D4.1.pdf

Further Reading



Book B4.1:
Chambers, R. (2002). Participatory Workshops: A Sourcebook of 21 Sets of Ideas and Activities. Earthscan. London, UK. 224 pages.



Book B4.2:
Wates, N. (2000).
The Community Plannning Handbook.
Earthscan. London, UK.
230 pages.

T5 Stakeholder Analysis

Summary: Stakeholder analysis is the process of identifying individuals, groups or organisations with an interest in, importance to, or influence over the planning process, describing them and seeing how they can be best involved in the project. It is important to identify all stakeholders who could affect the project positively and negatively. The present tool suggests a procedure for analysing stakeholders and helps determining appropriate stakeholder involvement.

Application Within the Planning Process:
Step 1: Process Ignition and Demand Creation
Step 2: Launch of the Planning Process
Step 3: Detailed Assessment of the Current Situation

Related Tools:
T29 Project Management
T30 Monitoring Checklist

Purpose Involving all key stakeholders – people or organisations whose interests are affected by a project or whose activities significantly affect the project – is essential for the participatory CLUES approach. With a stakeholder analysis, you can provide a strategy for participation.
This tool helps to structure and use information on the following aspects:

- stakeholders' attitudes, interests and power in relation to the project
- conflicts of interests between stakeholders and possible risks for the project,
- relations between stakeholders appropriate forms of participation and roles & responsibilities in the action plan

How to use this tool? A complete stakeholder analysis comprises the following four steps:

1. Identification of key stakeholders and their interests
2. Assessment of the influence and importance of stakeholders
3. Identification of risks and assumptions about stakeholders
4. Identification of appropriate stakeholder participation

This step-by-step procedure is explained in **Document D5.1**, including an example. A preliminary stakeholder identification and characterisation should be done in the beginning of the planning process, i.e. during the ignition and demand creation phase (step 1). During the official launching workshop (step 2), a participatory stakeholder identification is carried out with the workshop participants. Performing the exercise in a participatory manner helps gaining a realistic picture of the views, concerns and interests of stakeholders and to share and clarify information quickly. During the detailed assessment of the current situation (step 3), the assessment is completed and refined by the process leader.
The results should be cross-checked during individual interviews and then be used to appropriately involve the stakeholders. This can be ensured through good project management practices (**see Tool T29**). A stakeholder analysis should be a dynamic process in which key stakeholders are re-evaluated throughout the project period. Such a systematic approach is also useful for monitoring and evaluation of the project (**see T30**).

Resources



Document D5.1:
Conducting an Integrated Stakeholder Analysis
D5.1.pdf

T6 Sample Agenda: Official Launching Workshop

Summary: This tool is a sample agenda of a launching workshop. It shows the main items that should be discussed and provides a suggestion of how the event can be structured. Using the Word document, the agenda can easily be developed and adapted according to the specific context.

Application Within the Planning Process:

Step 2: Launch of the Planning Process

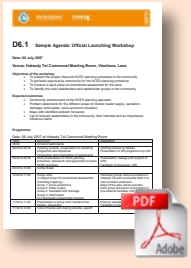
Related Tools:

T3	Participatory Assessment Methods
T4	Organising Meetings, Events and Workshops
T5	Stakeholder Analysis
T7	PowerPoint Slides: CLUES Presentation
T8	Problem Tree Analysis

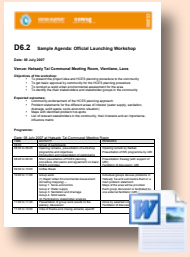
Purpose In CLUES step 2, a half-day community workshop is foreseen to officially launch the planning process. This tool illustrates the objectives and contents of such a workshop and provides guidance on how to conduct it.

How to use this tool? The sample agenda in Document D6.1 originates from the launching workshop of the Hatsady Tai HCES case study, which was held in Vientiane (Laos). By editing the Word version (D6.2) you can adapt the agenda to the programme and goals of your own launching workshop. Tool T4 contains practical information for the organisation of the workshop and a checklist of required equipment. T3, T5, T7 and T8 can help you prepare the different activities scheduled for this workshop.

Resources



Document D6.1:
Agenda of the Launching Workshop in Hatsady Tai, Laos
2007
D6.1.pdf



Document D6.2:
Agenda of the Launching Workshop in Hatsady Tai, Laos
2007
D6.2.doc

T7 PowerPoint Slides: CLUES Presentation

Summary: This tool is a PowerPoint presentation for the introduction of the CLUES planning process during the launching workshop. It can be used to familiarise groups with the approach.

Application Within the Planning Process:
Step 2: Launch of the Planning Process

Related Tools:
T6 Sample Agenda: Official Launching Workshop

Purpose During the official launching workshop, the community and members from other stakeholder groups are introduced to the CLUES approach. One appropriate way to do this is giving a presentation. In this tool a ready-made set of PowerPoint slides is provided for a target audience that includes community members and officials from governments, institutions and other relevant organisations. The slides visualise the principles behind CLUES, the 7-step process and the use of the toolbox.

How to use this tool? The presentation slides are provided in PowerPoint form (**Document D7.1**). They can directly be used for launching workshops but it is recommended to translate them into the local language. Users of the presentation should feel free to adapt them to their project, for example, by highlighting the content and procedure of the planning steps most relevant to their specific context.
The description of step 2 in the CLUES guidelines includes more information on the launch of the planning process. A suggested agenda of the launching workshop is provided in **Tool T6**.

Resources



Document D7.1:
Presentation Slides: Introduction to the CLUES Planning Approach
D7.1.ppt

T 8 Problem Tree Analysis

Summary: Problem tree analysis (also called situational analysis or problem analysis) is a method to identify and understand the main issues around a specific local situation and to visualise cause-effect relationships in a problem tree. This tool presents a step-by-step procedure for problem tree analysis and illustrates it with an example.

Application Within the Planning Process:
Step 2: Launch of the Planning Process

Related Tools:
T2 Interview Methods and Questionnaire Examples
T3 Participatory Assessment Methods

Purpose Prior to identifying sustainable actions to improve the existing environmental sanitation situation it is important to determine and understand the core problem. Problem tree analysis helps to find solutions by mapping out the causes and effects around an issue in a similar way to a mind map, but with more structure. It is a tool to

- Analyse and understand an existing situation around a problem area
- define the core problem of the situation
- visualise cause-effect relationships in a diagram (problem hierarchy).
- identify important factors and prioritise objectives by breaking down the problem into manageable units

How to use this tool? Problem tree analysis is best carried out by a focus group of key stakeholders in a workshop setting (see Tool T2 for more information on this). Follow the step-by-step procedure provided in Document D8.1 and create a problem hierarchy for the local context. A practical example illustrates the method and its application.
Tool T3 explains further participatory techniques (mapping and transect walk).

Resources



Document D8.1:
Problem Tree Analysis
Procedure and Example
D8.1.pdf

T9 Assessment Checklist

Summary: This tool is a starting point for information collection activities involved in the detailed environmental sanitation status assessment. It provides a checklist covering all the knowledge required for further planning steps. For each data item to be collected recommendations are made on how to obtain it.

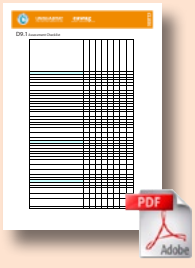
Application Within the Planning Process:
Step 3: Detailed Assessment of the Current Situation

Related Tools:
- **T2** Interview Methods and Questionnaire Examples
- **T3** Participatory Assessment Methods
- **T10** Contents and Examples of a Status Report

Purpose During the detailed assessment of the current environmental sanitation situation (step 3) information on a variety of subjects has to be collected and compiled in the status assessment report (see Tool T10). This information will form the basis for the identification of feasible environmental sanitation technologies and the development of the action plan. The checklist presented in this tool aims to summarise the key information needs and to ensure that all the relevant issues are included in the assessment. The tool also suggests for each data item how it can be collected and assessed.

How to use this tool? The checklist can be accessed as Document D9.1. The first part of the checklist refers to information related to the enabling environment, and the second part is split up into seven categories dealing with current practices and services related to environmental sanitation in the community (baseline technical information, water supply and water availability, sanitation and greywater system and practices, drainage, solid waste management, health and hygiene practices, environment). For every checklist element a recommendation is given on how to obtain the corresponding information. Tools T2 and T3 present some of these assessment methods.

Resources



Document D9.1:
Assessment Checklist
D9.1.pdf

T10 Contents and Examples of a Status Report

Summary: The status assessment report should be a readable document which condenses the key information gained during the third step of the CLUES planning procedure. The sample outline given here can be used as template and provides guidance on how to structure such a document. Furthermore, two examples serve as references and inspiration.

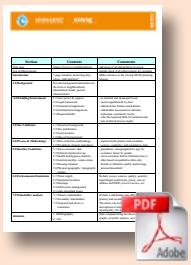
Application Within the Planning Process:
Step 3: Detailed Assessment of the Current Situation

Related Tools:
T9 Assessment Checklist

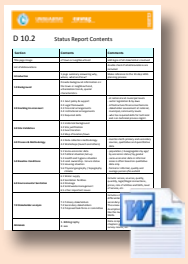
Purpose The status assessment report is the main output of the third CLUES planning step. It contains all the information gathered during the assessment of the current situation in a condensed and clearly represented form. The sample outline of the status report provided in this tool aims to give you an idea on how to structure such a document. Two examples from case studies illustrate possible contents and layouts of a status report.

How to use this tool? The status assessment report should include all the information listed in the assessment checklist (**Tool T9**) and bring it into a concise, readable form. The suggested outline of a status report can be accessed as a PDF (**Document D10.1**) or Word document **(D10.2)**. The editable Word version can directly be used as report template. However, users should feel free to adapt it to their specific situations, e.g. highlighting certain important aspects by discussing them in separate chapters.
Documents D10.3 and **D10.4** are the assessment reports from the case studies in Chang'ombe, Dodoma (Tanzania) and Hatsady Tai, Vientiane (Laos), respectively, and can be used as sources of inspiration.

Resources



Document D10.1:
Status Report Contents
D10.1.pdf



Document D10.2:
Status Report Contents
D10.2.doc



Document D10.3:
Assessment Report Dodoma
D10.3.pdf



Document D10.4:
Assessment Report Hatsady Tai, Laos
D10.4.pdf

T11 Assessment of Effective Demand

Summary: Proper assessment of effective demand is a precondition for any area-based intervention. It is thus an important part of the detailed assessment in step 3. Estimating willingness to pay is only part of the equation, though. Just as important as economic factors are situational factors (such as prestige, well-being and privacy) or psychological and behavioural factors. Using simple methods such as affordability assessment or expressed demand analysis can help inform the planning process at an early stage.

Application Within the Planning Process:
Step 3: Detailed Assessment of the Current Situation

Related Tools:
T2 Interview Methods and Questionnaire Examples

Purpose This tool allows users to assess if there is a real demand for improved environmental sanitation services or improved facilities at household level. Both economic and behavioural factors are used to provide a holistic diagnosis. This information will help in developing targeted approaches for creating demand later on in the process.

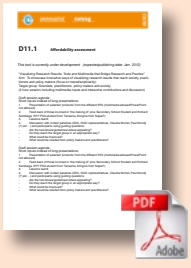
How to use this tool? Two simple demand estimation methods are presented:

(i) **Affordability assessment** (see Document D11.1) - can the residents afford improved sanitation services? As a rule of thumb people can afford to pay around 3% of their income for water and sanitation services, which gives an informed estimate based on available income data. It is not a very accurate figure but allows determining possible expenditure on a household basis.

(ii) The **expressed demand analysis** format is currently under development and is based on on-going research at Eawag. This tool will be available as D11.2 in the near future.

Tool T2 introduces interview and survey methods, which are key to assessing effective demand.

Resources



Document D11.1:
Affordability Assessment
D11.1.pdf



Document D11.2:
Expressed Demand Analysis
D11.2.pdf

T12 Municipal Solid Waste Management Planning

Summary: In this tool resources for the assessment and planning of solid waste management systems are given. Besides information on the integrated sustainable waste management approach and a baseline assessment checklist, the tool includes a step-by-step strategic planning guide, which aims to facilitate the process of elaborating solid waste management plans.

Application Within the Planning Process:
Step 5: Identification of Service Options

Related Tools:
T13 Composting Manuals

Purpose This tool provides information on the assessment of waste management systems and supports the development of solid waste management plans at local and regional levels. A comprehensive step-by-step strategic planning guide presents methods for the elaboration of improved municipal solid waste management concepts.

How to use this tool? The first two resource documents presented in this tool are principally targeted at the assessment of solid waste management systems and practices. Document D12.1 includes information on the concept of Integrated Sustainable Waste Management (ISWM) and the process of developing ISWM assessments, which can serve as a starting point for the implementation of single interventions or an entire strategic planning process. D12.2 is a compilation of checklists which can be used for assessing municipal solid waste systems.
The actual tool, a strategic planning guide for municipal solid waste management developed by the World Bank, consists of an interactive series of PDF files which can be accessed through D12.3. This guide suggests a step-by-step strategic planning method to facilitate the planning process. Detailed information on how to use it is provided in the associated Users' Guide (D12.4). Tool T13 represents manuals on decentralised composting of organic solid waste and related marketing approaches.

Resources



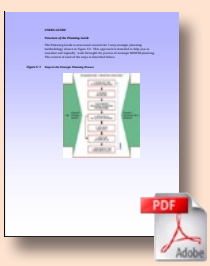
Document D12.1:
Anschütz, J. et al. (2004). *Putting Integrated Sustainable Waste Management into Practice.* WASTE. Gouda, The Netherlands.
D12.1.pdf



Document D12.2:
Zurbrügg, C. (2003). *Municipal Solid Waste Management - Defining the Baseline. A Checklist for Assessments of Municipal Solid Waste Systems.* Eawag. Switzerland.
D12.2.pdf



Document D12.3:
Wilson, D. et al. (2001). *Strategic Planning Guide For Municipal Solid Waste Management.* The World Bank. Washington DC, USA.
D12.3.pdf



Document D12.4:
Wilson, D. et al. (2001). *Strategic Planning Guide For Municipal Solid Waste Management - Users Guide.* The World Bank. Washington DC, USA.
D12.4.pdf

T13 Composting Manuals

Summary: This tool consists of two documents: 1) a step-by-step guideline on how to plan, implement and operate a decentralised composting system for the management of municipal organic solid waste, and 2) a guide on how to sell the products of a composting facility using an appropriate marketing approach.

Application Within the Planning Process:
Step 5: Identification of Service Options

Related Tools:
T12 Municipal Solid Waste Management Planning

Purpose This tool

- provides assistance in setting up decentralised composting schemes to mitigate the problem of municipal organic solid waste management in cities of developing countries,
- is mainly concerned with systems suited to neighbourhoods - primary waste collection systems and composting plants with capacities up to five tons per day,
- provides insights into the prevailing challenges of decentralised composting schemes, and recommends measures to avoid such problems through improved strategic planning, organisational, institutional, and operational procedures.
- helps running viable initiatives by unlocking the financial value of compost through the application of marketing techniques.

How to use this tool? In this tool you find two resource documents which provide guidance on different aspects of composting:

- If you are looking for information regarding the development and design of a collection system, preparation of a business plan or the design, construction, operation and maintenance of a composting facility, you should consider the step-by-step manual on decentralised composting. (in English: **Document D13.1**, in French: **D13.2**).
- The second document is a guide on marketing compost **(D13.3)**. It contains information on how to sell compost, and is intended to help compost producers understand the key principles and techniques of a marketing approach. These include identifying appropriate target customer groups, and developing and promoting products to suit the market.

A general procedure for municipal solid waste management is provided in **Tool T12**.

Resources



Document D13.1:
Rothenberger, S. et al. (2006). *Decentralised Composting for Cities of Low- and Middle-Income Countries - A Users' Manual.* Eawag and Waste Concern. Dübendorf, Switzerland and Dhaka, Bangladesh.
D13.1.pdf



Document D13.2:
Rothenberger, S. et al. (2006). *Compostage urbain décentralisé dans les pays à faibles et moyens revenus - Manuel de l'utlilisateur.* Eawag and Waste Concern. Dübendorf, Switzerland and Dhaka, Bangladesh.
French Edition
D13.2.pdf



Document D13.3:
Rouse, J. et al. (2008). *Marketing Compost - A Guide for Compost Producers in Low and Middle-Income Countries.* Eawag. Dübendorf, Switzerland.
D13.3.pdf

T14 Sample Agenda: Expert Consultation Workshop

Summary: This sample agenda provides an overview of the main points that need to be covered during the expert consultation workshop for the discussion of service options. The tool facilitates organising and conducting this workshop. It includes a Word version of the agenda which can easily be developed and adapted according to the specific context.

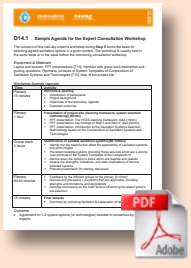
Application Within the Planning Process:
Step 5: Identification of Service Options

Related Tools:
- **T4** Organising Meetings, Events and Workshops
- **T15** Compendium of Sanitation Systems and Technologies
- **T16** PowerPoint Slides: Compendium Presentation
- **T17** Procedure for the Pre-Selection of Sanitation Systems

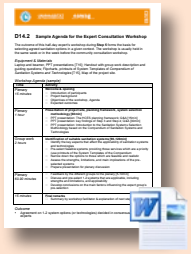
Purpose In sub-step 5.1 of the CLUES process, a group of experts identifies and pre-selects feasible sanitation systems for a given context in a half-day workshop. The present tool suggests an agenda for this expert consultation workshop and provides guidance for the organisation of the event.

How to use this tool? Document D14.1 includes the suggested agenda for an expert workshop. Use the Word version of this document (D14.2) and adjust it to the schedule and program details of your own workshop.
In this workshop you are recommended to work with the Compendium of Sanitation Systems and Technologies (see Tools T15 and T16) and to follow the procedure suggested in T17. General information on preparing and managing workshops can be found in T4.

Resources



Document D14.1:
Sample Agenda for the Expert Consultation Workshop
D14.1.pdf



Document D14.2:
Sample Agenda for the Expert Consultation Workshop
D14.2.doc

T15 Compendium of Sanitation Systems and Technologies

Summary: The Compendium of Sanitation Systems and Technologies is a compilation of information about the full range of sanitation technologies and introduces the concept of sanitation systems as logical combinations of options from different functional groups. The Compendium also includes system templates which describe different configurations for a variety of contexts. This tool will assist you in the selection of appropriate sanitation systems and technologies.

Application Within the Planning Process:
Step 5: Identification of Service Options

Related Tools:
- **T16** PowerPoint Slides: Compendium Presentation
- **T17** Procedure for the Pre-Selection of Sanitation Systems
- **T18** Greywater Management Manual
- **T19** Surface Water Drainage Manual

Purpose The Compendium of Sanitation Systems and Technologies is a planning and reference tool on the most appropriate and most sustainable sanitation systems and technologies. It will help you understand and work with the system concept based on pre-defined system templates and by iteratively choosing and linking appropriate technologies. It will also help you to identify the strengths and weaknesses of different sanitation systems and technologies.

How to use this tool? The Compendium is available in three languages – English (see Document D15.1), French (D15.2) and Spanish (D15.3). Part 1 of the document describes pre-defined System Templates and part 2 introduces Functional Groups, each with Technology Information Sheets. The five Functional Groups are User Interface, Collection and Storage, Conveyance, (Semi-)Centralised Treatment, and Use and/or Disposal. Within each Functional Group, a variety of options exist. Users of the Compendium select options from the different Functional Groups and make logical combinations to build an entire System. Comprehensive technical background information on decentralised wastewater treatment systems and their design can be found in B15.1. Tool T17 suggests a procedure for the pre-selection of sanitation systems during the expert consultation workshop in step 5. A set of PowerPoint presentation slides for the introduction of the Compendium is provided in T16. For a compilation of different treatment systems specifically for greywater management see T18. In T19 you can find information on different stormwater drainage technologies.

Resources



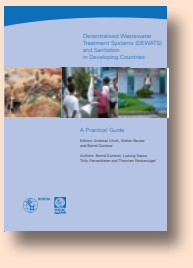
Document D15.1:
Tilley, E. et al. (2008). *Compendium of Sanitation Systems and Technologies.* Eawag. Dübendorf, Switzerland.
D15.1.pdf



Document D15.2:
Tilley, E. et al. (2009). *Compendium des Systèmes et Technologies d'Assainissement.* Eawag. Dübendorf, Switzerland.
French Edition
D15.2.pdf



Document D15.3:
Tilley, E. et al. (2010). *Compendio de Sistemas y Tecnologías de Saneamiento.* Eawag. Dübendorf, Switzerland.
Spanish Edition
D15.3.pdf



Book B15.1:
Gutterer, B. et al. (2009). *Decentralised Wastewater Treatment Systems (DEWATS) and Sanitation in Developing Countries – A Practical Guide.* WEDC/Borda. Leicestershire, UK. 367 Pages.

T16 PowerPoint Slides: Compendium Presentation

Summary: A ready-made set of PowerPoint slides about the Compendium of Sanitation Systems and Technologies is provided in this tool. It can be used to introduce the Compendium, its structure and its application for the pre-selection of sanitation systems. In the expert consultation workshop these presentation slides can help familiarise an expert group with the concepts of sanitation technologies, functional groups and system templates

Application Within the Planning Process:
Step 1: Identification of Service Options

Related Tools:
- **T14** Sample Agenda: Expert Consultation Workshop
- **T15** Compendium of Sanitation Systems and Technologies
- **T17** Procedure for the Pre-Selection of Sanitation Systems

Purpose This tool is a PowerPoint presentation for the introduction of the Compendium of Sanitation Systems and Technologies (**see Tool T15**) to the participants of an expert consultation workshop. It includes an overview of the content and structure of the Compendium and explains the use of system templates for the pre-selection of feasible sanitation systems.

How to use this tool? The presentation slides are provided PowerPoint form (**Document D16.1**) and can directly be used for expert consultation workshops. However, depending on the audience, it might be recommendable to translate them into the local language.

Tool 14 suggests an agenda for the expert consultation workshop. The description of step 5 (sub-step 5.1) in the CLUES guidelines includes more information on the pre-selection and evaluation of sanitation options during this workshop. A procedure recommended for the pre-selection of sanitation systems is given in **T17**.

Resources



Document D16.1:
Presentation Slides: Introduction to the Compendium of Sanitation Systems and Technologies
D16.1.ppt

T17 Procedure for the Pre-Selection of Sanitation Systems

Summary: The procedure suggested in this tool aims to facilitate and support the decision-making process of narrowing down the wide range of existing sanitation technology options to feasible systems during the expert consultation workshop. By combining a simple multi-criteria analysis with the concept of sanitation system templates it helps to cope with the multiple objectives of a sanitation system, uncertain outcomes and heterogeneous stakeholder interests.

Application Within the Planning Process:
Step 5: Identification of Service Options

Related Tools:
T14 Sample Agenda: Expert Consultation Workshop
T15 Compendium of Sanitation Systems and Technologies

Purpose In the expert consultation workshop feasible sanitation systems are preselected from the wide range of existing technology options. Thereby, multiple objectives, an uncertain outcome and heterogeneous stakeholder interests have to be respected. This tool aims to rationalise and facilitate the decision-making process. Based on the concept of sanitation system templates presented in the Compendium of Sanitation Systems and Technologies (Tool T15) and a simple form of the multi-criteria analysis method it provides a general procedure for the pre-selection of sanitation systems. The procedure aims to be easy to understand by workshop participants and quick to implement.

How to use this tool? The sample agenda of the expert consultation workshop presented in Tool T14 suggests that first the findings from the previous CLUES planning steps are presented and the Compendium is introduced. Depending on the number of participants, the plenary or smaller groups then follow the procedure specified in Document D17.1. For this task it will be helpful to provide printouts of the sanitation system templates from Part 1 of the Compendium for all participants.

Resources



Document D17.1:
Procedure for the Pre-Selection of Sanitation Systems
D17.1.pdf

T18 Greywater Management Manual

Summary: The greywater management manual contains comprehensive information on greywater characteristics, appropriate treatment technologies, options for safe reuse and also discusses the important issue of maintenance. It compiles case studies from all over the world with different levels of complexity, ranging from simple technologies on household level to rather complex treatment systems for neighbourhoods. The case study documentation includes information on design, costs as well as practical experience and lessons learned.

Application Within the Planning Process:
Step 5: Identification of Service Options

Related Tools:
T15 Compendium of Sanitation Systems and Technologies
T19 Surface Water Drainage Manual

Purpose This tool not only helps you to understand the characteristics of greywater and options for its management, it also facilitates the informed decision-making for greywater solutions. Although design principles and construction plans are provided in this document, it is not a design manual for greywater management systems. However, the tool provides guidance during the pre-selection of greywater management schemes.

How to use this tool? This manual on greywater management in low and middle-income countries (Document D18.1) includes

- information on greywater sources, quantities, properties and related risks (Chapters 2 and 3, pp. 5-16),
- a comprehensive description of the main components for successful greywater management (Chapter 4, pp. 17-20),
- a compilation of low-cost management, treatment and reuse/disposal options for household and neighbourhood level applications (Chapter 4, pp. 20-50) and
- examples of greywater management systems from different parts of the world (Chapter 5, pp. 51-84).

Prior to soliciting expert advice for design you can use Chapter 4 of the manual for pre-selecting greywater management schemes which are adapted to the specific requirements of your setting.

If you are concerned with systems for the management of wastewater fractions other than just greywater, Tool T15 will be of use. For information regarding surface water drainage, see T19.

Resources



Document D18.1:
Morel, A. and Diener, S. (2006). *Greywater Management in Low and Middle-Income Countries.* Eawag. Dübendorf, Switzerland.
D18.1.pdf

T19 Surface Water Drainage Manual

Summary: Stormwater management is an important component of environmental sanitation. This tool presents resources on the planning, design, construction and maintenance as well as rehabilitation of drainage systems. It contains comprehensive information on technical, financial and institutional aspects of the implementation of surface water drainage options. Possible causes of failure and the need for participation in planning are explained.

Application Within the Planning Process:
Step 5: Identification of Service Options

Related Tools:
T15 Compendium of Sanitation Systems and Technologies
T18 Greywater Management Manual

Purpose This tool informs you about issues specifically related to surface water drainage in urban areas. It includes information on

- the factors affecting stormwater flows,
- a recommended programme of action (planning, design, construction and maintenance),
- technical solutions, such as open channels and closed drains, including design calculations,
- construction, rehabilitation and maintenance of drainage systems and
- the need for community participation.

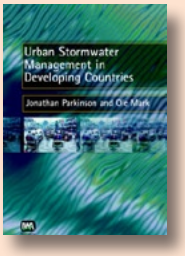
How to use this tool? This tool mainly refers to the open-source publication "Surface water drainage for low-income communities", which was developed by the WHO in collaboration with the UNEP in 1991 (see **Document D19.1**). This publication provides guidance on the sustainable implementation of surface water drainage programmes and can be used as a manual for the planning (Chapters 1, 2 and 4), construction (Chapter 2.8) or rehabilitation (Chapter 3) of drainage systems.
For further reading, **Book B19.1** is recommended. It provides a comprehensive resource for the planning, design, operation and maintenance of urban stormwater management systems in developing countries. Extensive information helping to understand drainage problems and to evaluate storm drainage system performance is given in **B19.2**. Technologies for the management of household wastewater are discussed in **Tools T15 and T18.**

Resources

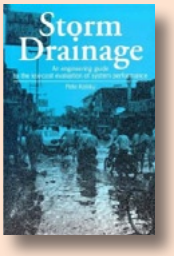


Document D19.1:
Cairncross, S. and Ouano, E.A.R. (1991). *Surface Water Drainage for Low-Income Communities.* WHO/UNEP. Geneva, CH.
D19.1.pdf

Further Reading



Book B19.1:
Parkinson, J. and Mark, O. (2005). *Urban Stormwater Management in Developing Countries.* IWA Publishing. London, UK. 218 Pages.



Book B19.2:
Kolsky, P. (1998). *Storm Drainage. An Engineering Guide to the Low-Cost Evaluation of System Performance.* IT Publications. London, UK. 134 Pages.

T20 Sanitation Costing Tool

Summary: This tool will assist you in estimating construction and maintenance costs of different sanitation technologies. It is based on detailed bills of quantities (BoQs) for selected technologies featured in the Compendium of Sanitation Systems and Technologies.

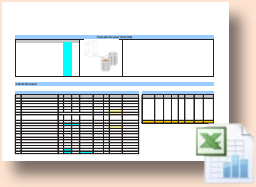
Application Within the Planning Process:
Step 5: Identification of Service Options
Step 7: Implementation of the Action Plan

Related Tools:
T15 Compendium of Sanitation Systems and Technologies

Purpose The cost of sanitation infrastructure varies considerably in time and space, and it is often difficult to estimate costs because locally no experience or standardised design and cost estimation procedures exist for innovative, unconventional systems. This tool allows you to assess the cost implications of material, labour and maintenance required for a range of sanitation technologies. The cost estimations are calculated based on generalised BoQs and local unit rates for materials (e.g. the price of 1 bag of cement) and for skilled/unskilled labour. The bills of quantities are organised according to the numbering system used in the Compendium of Sanitation Systems and Technologies (Tool T15). However, generalised BoQs are not available for all the technologies included in the Compendium, because for many of them highly variable design alternatives exist – depending on specific local conditions, preferences and standards.

How to use this tool? After the pre-selection of possible sanitation systems (CLUES sub-step 5.1), use this tool to obtain a first idea on cost implications to inform the final decision. The BoQs are organised in separate Excel spreadsheets for each technology (Document D20.1). User interface technologies are differentiated between basic (low-cost) and advanced (higher cost) options. Copy the excel templates of the technologies you are interested in costing and enter context specific unit rates for material and labour to get informed cost estimates. The BoQs can also be used as a basis for the bidding documents later on when you move to implementation (step 7).

Resources



Document D20.1:
Bills of Quantities
D20.1.xls

T21 Sample Agenda: Community Consultation Workshop

Summary: This sample agenda provides an overview of the main points that need to be covered during the community consultation workshop for the discussion of service options. The tool facilitates organising and conducting this workshop. It includes a Word version of the agenda which can easily be developed and adapted according to the specific context.

Application Within the Planning Process:
Step 5: Identification of Service Options

Related Tools:
- **T4** Organising Meetings, Events and Workshops
- **T15** Compendium of Sanitation Systems and Technologies
- **T22** PowerPoint Slides: Presentation Outline for the Community Consultation Workshop

Purpose In sub-step 5.2 of the CLUES process, the feasible sanitation options pre-selected in the previous expert consultation workshop are discussed with the key stakeholders (community or representatives, local authorities, private service providers, land owners, etc.). The present tool suggests an agenda for this half-day community consultation workshop and assists in the organisation of the event.

How to use this tool? Document D21.1 includes the suggested agenda for a community consultation workshop. Use the Word version of this document (D21.2) and adjust it to the schedule and program details of your own workshop. Tool T22 provides guidance for the preparation of the workshop presentations. In this workshop you may want to use the Compendium of Sanitation Systems and Technologies again (T15) to facilitate the discussion of options. General information on preparing and managing workshops can be found in T4.

Resources



Document D21.1:
Sample Agenda for the Community Consultation Workshop
D21.1.pdf



Document D21.2:
Sample Agenda for the Community Consultation Workshop
D21.2.doc

T 22 PowerPoint Slides: Presentation Outline for the Community Consultation Workshop

Summary: This tool can be used to prepare a presentation of the pre-selected technical sanitation options for the community consultation workshop. It provides a PowerPoint outline which illustrates how the main contents of this presentation can be structured.

Application Within the Planning Process:
Step 5: Identification of Service Options

Related Tools:
T21 Sample Agenda: Community Consultation Workshop

Purpose In the community consultation workshop the outcomes of the expert workshop, i.e. the pre-selected service options, are presented to key stakeholders and the community at large. This tool provides a PowerPoint outline which gives an idea of the main points that should be covered and helps to structure the presentation.

How to use this tool? Document D22.1 provides a presentation outline in PowerPoint form. This tool does not provide a ready-made set of PowerPoint slides. It rather suggests a structure which should be adapted and filled in according to the context when preparing the presentation for the community consultation workshop. Different project setups will result in different outcomes of the planning process and different pre-selected systems – therefore it is impossible to provide general PowerPoint slides here. When preparing the presentation, take into account the workshop agenda and the scheduled duration of the presentation (See Tool T21).

Resources



Document D22.1:
Presentation Outline: Proposals of the Expert Consultation Workshop
D22.1.ppt

T23 Contents of an Action Plan

Summary: This tool lists the main points to cover in a CLUES action plan. Examples, including tables of contents, a timeline and an itemised budget for the implementation of works, provide an overview of the structure of such a document. These recommendations and examples help you structure your own action plan.

Application Within the Planning Process:
Step 6: Development of an Action Plan

Related Tools:
T24 Sample Operation and Maintenance Documents
T25 Funding Opportunities
T29 Project Management

Purpose The local area action plan to be developed in step 6 is the final output of the planning process and serves as a blueprint for implementation. This tool aims to provide an overview of the main points to consider in an action plan. It includes two exemplary tables of content which give you an idea on how to structure such a document. The tool also includes an example of a timeline for implementation and the corresponding itemised implementation budget.

How to use this tool? Since action plans differ a lot from case to case, no template can be provided here. Document D23.1 rather describes the main points to consider in an action plan and includes case study examples which you can use as sources of inspiration. The outlines of the action plans from the case studies in Nala (Nepal) and Dodoma (Tanzania) are presented. Besides these tables of content, the implementation timeline and an itemised implementation budget from the case study in Nala are shown.
Tool T29 includes references on how to set up project timetables. Guidance on operation and maintenance plans, which should be included in the action plan, is given in T24. For information on funding opportunities see T25.

Resources



Document D23.1:
Contents of an Action Plan
D23.1.pdf

T 24 Sample Operation and Maintenance Documents

Summary: This tool provides guidance in developing appropriate operation and maintenance (O&M) strategies for environmental sanitation projects. It includes a sample regulation, procedure and, schedule as well as a report template for O&M which give you an idea on how to develop such documents for your own project.

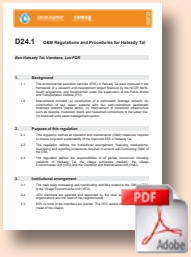
Application Within the Planning Process:
Step 6: Development of an Action Plan
Step 7: Implementation of the Action Plan

Related Tools:
None

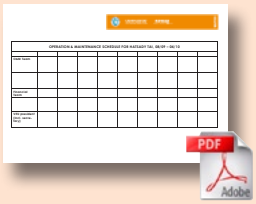
Purpose In step 6 of the CLUES process, O&M requirements and procedures are determined. During step 7 the detailed proposals for O&M are developed. This tool helps you to develop appropriate O&M strategies by providing a set of relevant document examples from the case study in Hatsady Tai, Vientiane (Laos).

How to use this tool? Use the documents provided in this tool to get an idea on how to develop the O&M strategy for your own project. The examples from Laos include O&M regulations and procedures (**Document D24.1**), an O&M schedule (**D24.2**) and a template for an annual O&M report (**D24.3**).
O&M plans should be developed in consultation with those who will have to implement them. These plans must be developed in the local language, and be approved by all, including higher level authorities.

Resources



Document D24.1:
O&M Regulations and Procedures for Hatsady Tai, Laos
D24.1.pdf



Document D24.2:
O&M Schedule for Hatsady Tai, Laos
D24.2.pdf



Document D24.3:
Template of the Annual O&M Report for Hatsady Tai, Laos
D24.3.pdf

T25 Funding Opportunities

Summary: This tool provides guidance on different funding mechanisms for financing environmental sanitation services and infrastructure. It includes formal and informal microfinance for financing low-income household sanitation facilities and municipal loans for higher-level infrastructure financing.

Application Within the Planning Process:
Step 6: Development of an Action Plan

Related Tools:
T23 Contents of an Action Plan

Purpose There are no simple solutions to financing sanitation in low-income communities (unlike water supply), but with creativity and adapted funding vehicles, problems concerning how to finance sanitation can be solved. The action plan developed in step 6 must include a section on how the proposed interventions will be funded. This tool provides an overview of different funding mechanisms for urban infrastructure that have shown to be successful in the past.

How to use this tool? There are two parts to this tool:

(i) For low-income household sanitation facilities (e.g. improved toilets), different variations of microcredit are presented – from informal rotating savings and credit associations to formalised microfinance schemes working through regional or national microfinance institutions (see **Document D25.1**).

(ii) For more capital intensive investments in services and infrastructure (e.g. simplified sewers or decentralised treatment plants) municipal loans and external funding opportunities are presented (see **D25.2**). Many countries today have some form of local authority infrastructure investment fund.

More information on how to structure a CLUES action plan is provided in **Tool T23**.

Resources



Document D25.1:
Singeling, M. et al. (2009). *Smart Finance Solutions: Examples of Innovative Financial Mechanisms for Water and Sanitation.* KIT Publishers. Amsterdam, Nederlands.
D25.1.pdf



Document D25.2:
Evans, B. et al. (2009). *Public Funding for Sanitation. The Many Faces of Sanitation Subsidies.* WSSCC. Geneva, Switzerland.
D25.2.pdf

T26 Bidding Documents for Construction Services

Summary: This tool assists you in setting up bidding documents (or tender documents) for the procurement of small works. Besides a general resource text on bidding procedures it contains standard bidding documents which illustrate how bidding documents can be developed and which points should be included.

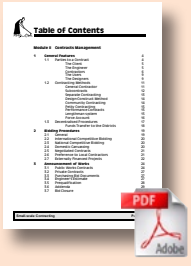
Application Within the Planning Process:
Step 7: Implementation of the Action Plan

Related Tools:
T27 Standardised Short Contracts
T28 Contents of a Community Contract

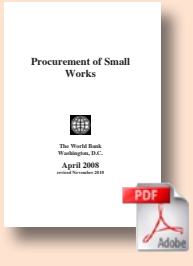
Purpose Bidding documents are a set of documents established by the client, providing bidding instructions, evaluation criteria, conditions of contract and a description of works for the purpose of obtaining comparable offers from a number of tenderers (ILO, undated). These documents describe the what, where, who, how and when of your project in detail. The purpose of this tool is to provide guidance on how to set up bidding documents and what to include.

How to use this tool? Document D26.1 provides general information on contracts management, bidding procedures, and particularly contract documents (pp. 51-59). Numerous standard bidding documents (SBDs) exist from different organisations. The World Bank, for example, uses SBDs for international and national competitive bidding and award of small works (see D26.2). This document exceeds the level of detail required for local contracting, which might be appropriate for most CLUES projects, but it illustrates the structure and wording of bidding documents and provides useful templates, ranging from instructions to bidders (Section I) to bid data sheets (Section II), employers' requirements (Section VI) and general and particular conditions of contract (Sections VII and VIII).
For guidance on setting up contracts see **Tools** T27 and T28.

Resources



Document D26.1:
ILO (undated). *Small-Scale Contracting. Module II - Contracts Management.* International Labour Organization. Geneva, Switzerland.
D26.1.pdf



Document D26.2:
The World Bank (2010). *Standard Bidding Documents for Procurement of Small Works.* November 2010 Revision. The World Bank. Washington DC, USA.
D26.2.pdf

T27 Standardised Short Contracts

Summary: This tool includes information on small-scale contracting and presents two standardised short contract documents – the FIDIC Short Form of Contract and the NEC3 Engineering and Construction Short Contract. These contract templates are not available within this toolbox for free, but can be used to simplify the development of contracts.

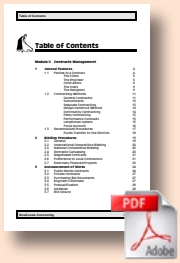
Application Within the Planning Process:
Step 7: Implementation of the Action Plan

Related Tools:
T26 Bidding Documents for Construction Services
T28 Contents of a Community Contract

Purpose Contracts for minor scope of works (i.e. small-scale contracts for works with limited complexity) should be simple, clear and transparent while covering all the fundamental requirements to ensure the rights and obligations between client (employer) and contractor. By using standard documents time is saved during preparation instead of redrafting the conditions for each project. Furthermore, the wording is clearly understood and these standardised conditions have often been tested in court so that the legal interpretation is known. The purpose of this tool is to present available standardised short contracts which can be used as templates.

How to use this tool? General information on small-scale contracting is given in **Document D27.1**. It includes sections on contracting methods (pp. 11-16) and contract implementation (pp. 66-79). If you want to set up a minor scope contract we recommend to use either the FIDIC Short Form of Contract **(Book B27.1)** or the NEC3 Engineering and Construction Short Contract **(B27.2)**. For more information on the contents of these publications and where to purchase them (for approx. 30 USD) see **Links L27.1-L27.3**.
Tool T28 deals with community contracts and their application. **T26** provides guidance on how to develop bidding documents and which points should be included.

Resources

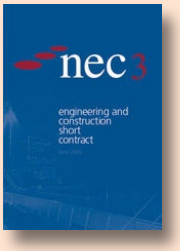


Document D27.1:
ILO (undated): *Small-Scale Contracting. Module II - Contracts Management.* International Labour Organization. Geneva, Switzerland.
D27.1.pdf

Further Reading



Book B27.1:
FIDIC (1999). *Short Form of Contract. First Edition.* Fédération Internationale des Ingénieurs-Conseils. Geneva, Switzerland. 34 Pages.



Book B27.2:
NEC (2005). *NEC3 Engineering and Construction Short Contract.* NEC. London, UK. 30 Pages.

Links

Link L27.1: FIDIC Bookshop: Short Form of Contract
Link L27.2: NEC: Engineering and Construction Short Contract
Link L27.3: NEC: Engineering and Construction Short Contract Guidance Notes

T 28 Contents of a Community Contract

Summary: A community contract is an agreement between a community and a contracting authority, whereby the community is responsible for the implementation of the works. This tool provides an introduction on the practical application of community contracts for the execution of infrastructure works. Besides general information on community contracting it suggests a structure for the content of such a contract and provides an example.

Application Within the Planning Process:
Step 7: Implementation of the Action Plan

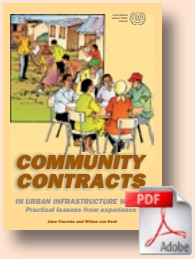
Related Tools:
T27 Standardised Short Contracts

Purpose In a community contract the community is responsible for the implementation of the works and therefore functions as contractor. This form of contract is particularly useful in participatory processes as it uses local resources, creates employment for the urban poor, empowers the community and allows building capacities. Community contracting assists in developing constructive partnerships by clarifying the role the community will play and allowing them to control the assets they create. The aim of this tool is to introduce the concept of community contracting as well as to provide resources on how to set up a community contract and what to include.

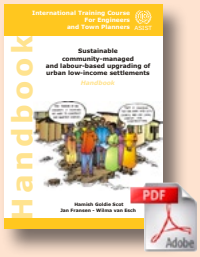
How to use this tool? Document D28.1 by the International Labour Office (ILO) contains information on the use of community contracts and step-by-step guidelines (pp. 50-63) on the setting up of a community contracting system for infrastructure provision and up-grading in informal urban settlements. This comprehensive resource document also includes experience and lessons learnt from case studies where community contracts were implemented. For a possible content structure of a community contract see pp. 34-35 of D28.2. A sample community contract for infrastructure works from Nepal is presented in D28.3.

Also see Tool T27 for standardised short contracts, which can be used with contractors other than the community.

Resources



Document D28.1:
Tournee, J. and van Esch, W. (2001). *Community Contracts in Urban Infrastructure Works.* International Labour Organization. Geneva, Switzerland.
D28.1.pdf



Document D28.2:
Fransen, J. et al. (2002). *Sustainable Community-Managed and Labour-Based Upgrading of Urban Low-Income Settlements. Handbook.* International Labour Organization. Geneva, Switzerland.
D28.2.pdf



Document D28.3:
Community Contracting Example from Nepal
D28.3.pdf

T29 Project Management

Summary: Good project management is relevant for the entire CLUES process and of particular importance during the implementation step. This tool introduces the principles of project management, including the development of work breakdown structures and Gantt charts. Links are provided to useful free software and web applications which can support the project management process.

Application Within the Planning Process:
Step 1 to Step 7
Particularly Step 7: Implementation of the Action Plan

Related Tools:
T30 Monitoring Checklist

Purpose Project management is an overarching activity relevant during the entire CLUES planning period. However, particularly during the implementation phase (step 7) it is important to efficiently coordinate resources. Project management aims to achieve certain outcomes within a specific time period, to use good planning, to schedule tasks properly and to make the most of available resources, including money, materials, equipment and people (Geyer, 2005). The purpose of this tool is to introduce the basics of project management and to show how it can be done efficiently.

How to use this tool? Document D29.1 introduces the principles of project management and represents an easy-to-use and concise resource which deals with the full project life cycle. D29.2 will help you to develop a Gantt chart for time planning. Link L29.1 presents an online project management dictionary with many useful explanations.

You are recommended to use one of the powerful free computer applications for project management. Such applications facilitate and automate the process (e.g. the development of work breakdown structures and Gantt charts or the allocation of resources) and help you keep track of activities and milestones. On the one hand, there are open source desktop solutions with all the bells and whistles, such as OpenProj (see Link L29.2) and Open Workbench (L29.3). On the other hand, less sophisticated free web-based applications exist which provide an interactive, user-friendly project platform aiming to easily share information and facilitate communication and collaboration between stakeholders. Examples are Manymoon (L29.4) and Freedcamp (L29.5).
One task which is linked to project management is monitoring of the CLUES process. Tool T30 is a checklist for this.

Resources



Document D29.1:
Geyer, Y (2005). *Project Management. Handbook Series for Community-Based Organisations.* IDASA. Pretoria, South Africa.
D29.1.pdf



Document D29.2:
Tasmanian Government (2008). *Project Management Fact Sheet: Developing a Gantt Chart.* Version 1.2. Department of Premier and Cabinet. Hobart, Australia.
D29.2.pdf

Links

Link L29.1: Project Management Dictionary
Link L29.2: OpenProj
Link L29.3: Open Workbench
Link L29.4: Manymoon
Link L29.5: Freedcamp

T30 Monitoring Checklist

Summary: This tool will assist you in monitoring the first 6 steps of the CLUES planning process (before implementation). It suggests a simple checklist after each planning step, enabling the main stakeholders to be regularly informed on the progress and problems encountered.

Application Within the Planning Process:
Step 1 to Step 6

Related Tools:
T29 Project Management

Purpose Monitoring is the regular observation and recording of project activities to check how they are progressing and to take decisions for course correction and improving project performance. Monitoring helps to ensure that the desired outputs are being achieved (NETSSAF, 2008). For CLUES, monitoring involves a situation analysis that asks 3 simple questions: 1. Where are we? 2. Where do we want to go next? 3. What do we need to do to make it happen? The monitoring tool suggests a checklist which assists you in process monitoring during the first 6 steps of CLUES. Monitoring of the implementation phase is not less important, but different to monitoring of the planning process and therefore not covered by this tool. More information on monitoring plans for construction can be found in the description of sub-step 7.1.

How to use this tool? The monitoring checklist (Document D30.1) should be used by all individuals and institutions which have an interest in the project. It is recommended that regular monitoring review meetings be held after each of the six planning steps by the process leader, ideally right after the respective workshop involving NGO and/or local authority and community representatives. Results of the monitoring review meetings should be documented in writing. Corrective action should be taken if need be.
Regular process monitoring also supports good project management. More information on project management is provided in Tool T29.

Resources



Document D30.1:
Monitoring Checklist
D30.1.pdf

Annex: The Bellagio Principles

Meeting at Bellagio (Italy) from 1-4 February 2000, an expert group brought together by the Environmental Sanitation Working Group of the Water Supply and Sanitation Collaborative Council (WSSCC) agreed that current waste management policies and practices are abusive to human well-being, economically unaffordable and environmentally unsustainable. They therefore called for a radical overhaul of conventional policies and practices world-wide, and of the assumptions on which they are based, in order to accelerate progress towards the objective of universal access to safe environmental sanitation, within a framework of water and environmental security and respect for the economic value of wastes.
The resulting principles are as follows:

1. Human dignity, quality of life and environmental security at household level should be at the centre of the new approach, which should be responsive and accountable to needs and demands in the local and national setting.

- solutions should be tailored to the full spectrum of social, economic, health and environmental concerns
- the household and community environment should be protected
- the economic opportunities of waste recovery and use should be harnessed

2. In line with good governance principles, decision-making should involve participation of all stakeholders, especially the consumers and providers of services.

- decision-making at all levels should be based on informed choices
- incentives for provision and consumption of services and facilities should be consistent with the overall goal and objective
- rights of consumers and providers should be balanced by responsibilities to the wider human community and environment

3. Waste should be considered a resource, and its management should be holistic and form part of integrated water resources, nutrient flows and waste management processes.

- inputs should be reduced so as to promote efficiency and water and environmental security
- exports of waste should be minimised to promote efficiency and reduce the spread of pollution
- wastewater should be recycled and added to the water budget

4. The domain in which environmental sanitation problems are resolved should be kept to the minimum practicable size (household, community, town, district, catchment, and city) and wastes diluted as little as possible.

- waste should be managed as close as possible to its source
- water should be minimally used to transport waste
- additional technologies for waste sanitisation and reuse should be developed

References and further reading

Cotton, A. and Tayler, K. (2000). *Services for the Urban Poor.* Water, Engineering and Development Centre (WEDC), Loughborough University. Leicestershire, UK.

Chambers, R. (2009). *Going to Scale with Community-Led Total Sanitation: Reflections on Experience, Issues and Ways Forward.* IDS Practice Paper 2009.1. Institute of Development Studies (IDS), University of Sussex. Brighton, UK.

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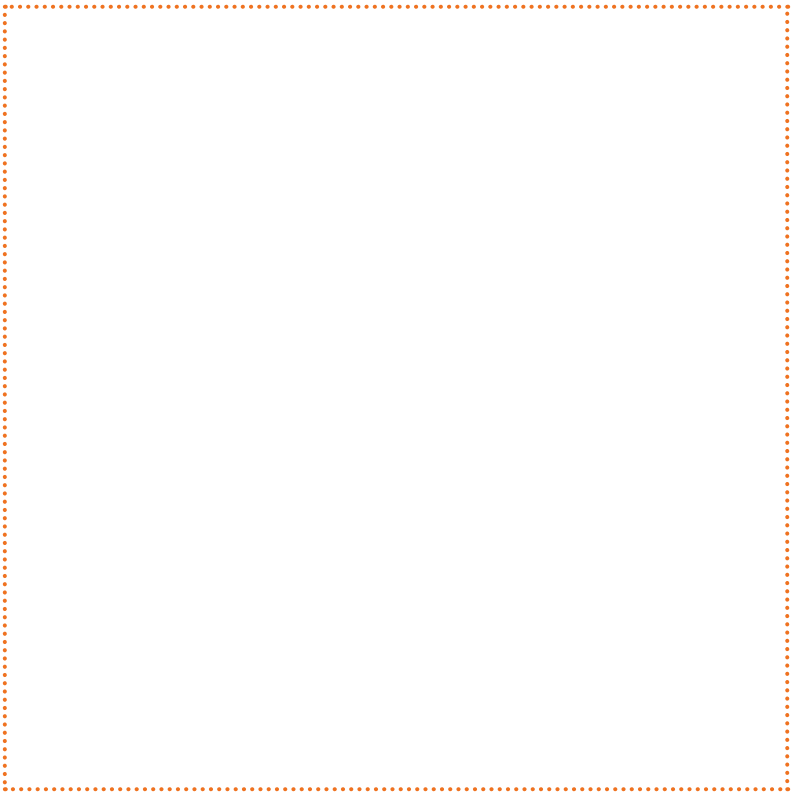
Your Key to CLUES:



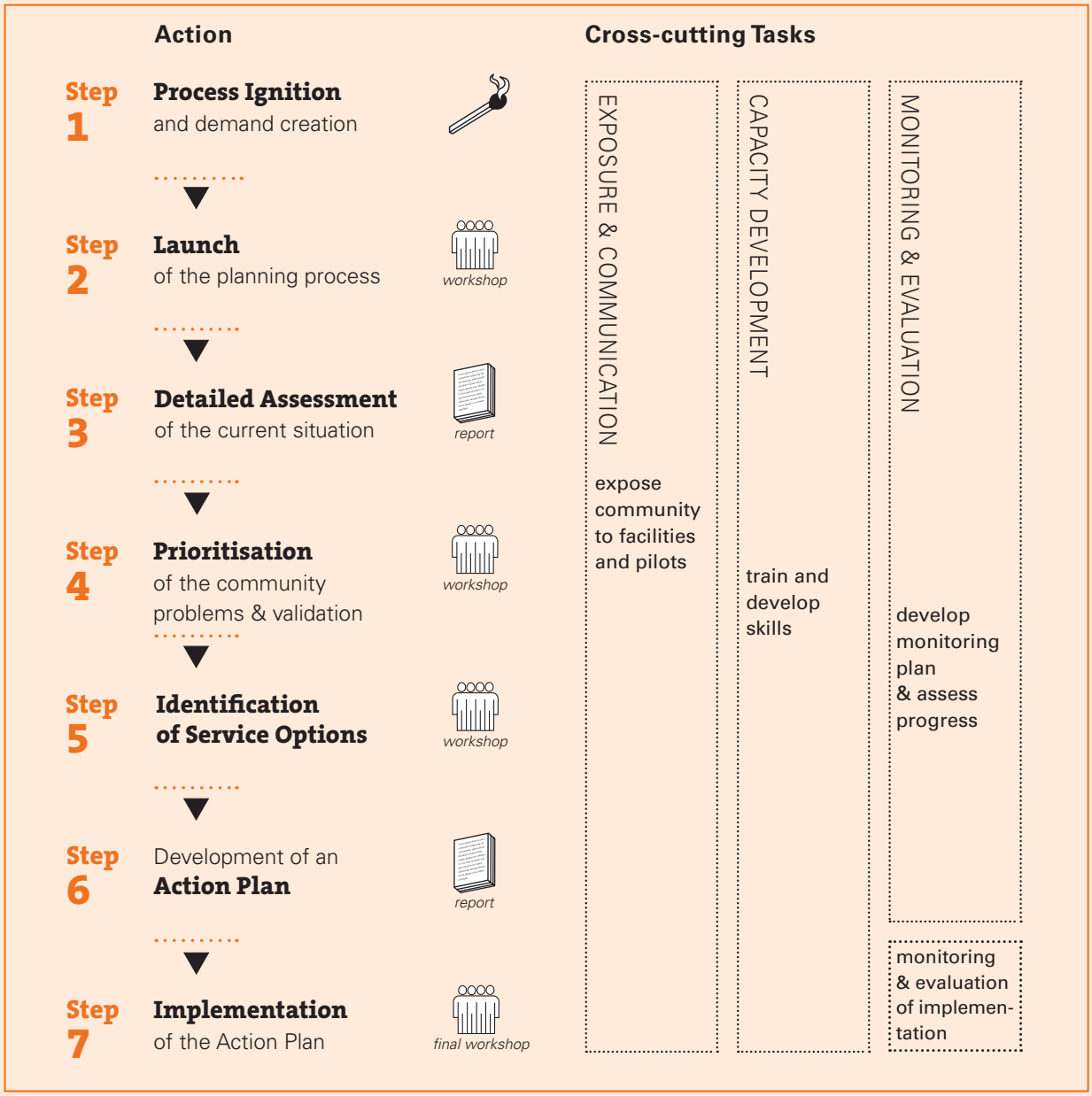
This key opens the door to the CLUES Toolbox containing 30 tools.

The fact that a large majority of the world's population is without access to adequate water, sanitation, drainage and solid waste services, presents strong evidence that conventional approaches to environmental sanitation are unable to make a significant dent in the backlog which exists in most parts of the developing world.

These guidelines present guiding principles for the planning and implementation of environmental sanitation infrastructure and services in disenfranchised urban and peri-urban communities. The planning approach builds on a framework which balances the needs of people with those of the environment to support human dignity and a healthy life. By involving all relevant stakeholders, particularly the beneficiary community, it aims to consider the entirety of perspectives and expectations. This allows finding the best possible environmental sanitation solution in a common agreement.

In Part 1 the seven steps of the actual planning approach are explained. Part 2 describes why an enabling environment (political, legal, institutional, financial, socio-cultural and knowledge framework) is needed as a precondition for the success of a planning process and how it can be nurtured. Part 3 provides 30 practical tools in digital form which aim to support and streamline the implementation of the process. The toolbox is provided on the enclosed memory key.

Overview of the CLUES planning approach



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