



MINISTRY OF HEALTH

# NATIONAL SANITATION AND HYGIENE GUIDELINES



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2017

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## Foreword

Poor sanitation costs Uganda 389 billion Ugandan Shillings each year, equivalent to US\$177 million, This sum is the equivalent of US\$5.5 per person in Uganda per year or 1.1% of the national GDP.

Approximately 23,000 Ugandans, including 19,700 children under 5, die each year from diarrhea – nearly 90% of which is directly attributed to poor water, sanitation and hygiene (WASH). In addition poor sanitation is a contributing factor – through its impact on malnutrition rates – to other leading causes of child mortality including malaria, ALRI and measles.

The country also loses US\$1.1 million each year due to productivity losses whilst sick or accessing healthcare: This includes time absent from work or school due to diarrheal disease, seeking treatment from a health clinic or hospital, and time spent caring for under-5's suffering from diarrhea or other sanitation-attributable diseases.

Each year US\$21 million is spent on Health Care: Diarrheal diseases directly, and indirectly via malnutrition (and its consequences for other diseases such as respiratory infections and malaria) are all leading causes of morbidity.

Allocate higher investments to sanitation Current sanitation investment in Uganda is between 0.1-0.5% GDP:<sup>4</sup> which is lower than several estimates for what is required.<sup>5</sup> Increased investments in sanitation and hygiene promotion are required not only to realise health and welfare benefits of sanitation but also to avert large economic losses.

Government needs to target investments that addresses the poorest sanitation inequity through specific strategies such as improved sanitation and hygiene by using popular approaches such community led total sanitation among others.

These guidelines have been updated as part of the efforts to support sanitation and hygiene interventions for realizing the set Sustainable Development Goals by 2030. It is my sincere hope that they will be well received and used as important tools in the sanitation and hygiene improvement efforts in our country .

I take this opportunity to thank all the organizations and individuals who participated in the development and multiple reviews of these guidelines.

**The Permanent Secretary**  
**Ministry of Health**

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# Acronyms

<b>ADHO-EH</b>	Assistant District Health Officer, Environmental Health	<b>MLG</b>	Ministry of Local Government
<b>AMCOW</b>	African Ministers Council on Water	<b>MoES</b>	Ministry of Education and Sports
<b>BCC</b>	Behavioural Change Communication	<b>MoH</b>	Ministry of Health
<b>BMU</b>	Beach Management Unit	<b>MoU</b>	Memorandum of Understanding
<b>CAO</b>	Chief Administrative Officer	<b>MTEF</b>	Mid Term Expenditure Framework
<b>CBO</b>	Community Based Organization	<b>MWE</b>	Ministry of Water and Environment
<b>CDO</b>	Community Development Officer	<b>NDP</b>	National Development Plan
<b>CHC</b>	Community Health Clubs	<b>NEMA</b>	National Environment Management Authority
<b>CHW</b>	Community Health Workers	<b>NGOs</b>	Non Governmental Organization
<b>CLTS</b>	Community Led Total Sanitation	<b>NHP</b>	National Health Policy
<b>CSO</b>	Civil Society Organization	<b>NSWG</b>	National Sanitation Working Group
<b>CTC</b>	Child to Child	<b>O&amp;M</b>	Operation and Maintenance
<b>DEO</b>	District Education Office	<b>ODF</b>	Open Defecation Free
<b>DLG</b>	District Local Government	<b>OPM</b>	Office of the Prime Minister
<b>DSCG</b>	District Sanitation and Hygiene Conditional Grant	<b>PHAST</b>	Participatory Hygiene and Sanitation Transformation
<b>DTPC</b>	District Technical Planning Committee	<b>PHC</b>	Primary Health Care
<b>DWD</b>	Directorate of Water Development	<b>PWD</b>	People With Disability
<b>DWO</b>	District Water Office	<b>SanMark</b>	Sanitation Marketing
<b>DWSCC</b>	District Water and Sanitation Co-ordination Committee	<b>SBCC</b>	Social Behavioural Change Communication
<b>ECOSAN</b>	Ecological Sanitation	<b>SCAC</b>	Sub County Action Committee
<b>EHD</b>	Environmental Health Division	<b>SDG</b>	Sustainable Development Goals
<b>FUM</b>	Follow up Mandona	<b>SLTS</b>	School Led Total Sanitation
<b>GDP</b>	Gross Domestic Product	<b>SWAP</b>	Sector Wide Approach
<b>HA</b>	Health Assistant	<b>SWOT</b>	Strengths, Weaknesses, Opportunities and Threats
<b>HI</b>	Health Inspector	<b>UAAU</b>	Urban Authorities Association of Uganda
<b>IEC</b>	Information Education Communication	<b>UDDT</b>	Urine Diversion Dry Toilet
<b>IMSC</b>	Inter-Ministerial Steering Committee	<b>UNICEF</b>	United Nations Children's Fund
<b>ISH</b>	Improved Sanitation and Hygiene	<b>UPE</b>	Universal Primary Education
<b>KDS</b>	Kampala Declaration on Sanitation	<b>VHTs</b>	Village Health Teams
<b>LC</b>	Local Council	<b>VIP</b>	Ventilated Improved Pit Latrine
<b>M&amp;E</b>	Monitoring and Evaluation	<b>WASH</b>	Water , Sanitation and Hygiene
<b>MAAIF</b>	Ministry of Agriculture, Animal Industry and Fisheries	<b>WC</b>	Water Closet
<b>MGLSD</b>	Ministry of Gender, Labour and Social Development	<b>WEF</b>	World Economic Forum
		<b>WHO</b>	World Health Organization
		<b>WSP</b>	Water and Sanitation Programme
		<b>DHO</b>	District Health Officer

## Common terms

### Behaviour:

The range of actions and mannerisms made by individuals, organisms, systems, or artificial entities in conjunction with themselves or their environment, including the other systems or organisms, as well as the (inanimate) physical environment.

### Behaviour change communication:

A set of coordinated interventions targeted at identified beliefs, knowledge, and attitudes to influence voluntary choices, decisions, and practices among the target audiences. This implies the need to reach out to the communities with interventions that address all the identified gaps.

### Ecological sanitation:

A holistic approach to sanitation and water management based on the systematic closure of local material flow cycles.

### Hygiene:

Refers to behaviours that can improve cleanliness and lead to good health, such as frequent hand washing with soap, face washing, and bathing with soap and water.

### Improved sanitation:

Facilities that ensure hygienic separation of human excreta from human contact at the household level; e.g., flush or pour-flush toilet/latrine to piped sewer system, septic tank, pit latrine, ventilated improved pit (VIP) latrine, pit latrine with slab, and composting toilet.

### Liquid waste:

Any form of liquid residue that is hazardous for people or the environment. It can be bulky or sludgy, or purely liquid, such as laboratories' waste.

### Nuisance:

Any condition that is dangerous or prejudicial, or injurious to the public health or public safety.

### Onsite sanitation:

Collection and treatment of waste is done where it is deposited.

### Pollution control:

Control of waste (grey) water, air, soil, and noise pollution. The control of emissions and effluents into the air, water, or soil.

### Safe water chain:

The process of keeping water safe from the point of collection to consumption. Often water quality tests show that water that was of good quality at the source becomes contaminated during collection, transportation, and storage. It is often of poor quality by the time it is drunk.

### Sanitation:

The process where people demand, develop, and sustain a hygienic and healthy environment for themselves by erecting barriers to prevent the transmission of diseases (UNICEF). It includes practicing good personal, domestic, and food hygiene; and the safe management of solid (rubbish, animal waste) and liquid waste (grey water). Safe water chain: safe collection, transportation, treatment, storage, and use. Vector and vermin control: control of insects and rodents that can spread diseases.

### Social and Behaviour Change Communication (SBCC):

The process that uses communication to promote and facilitate behaviour change and support



the required social change. It is positively influencing individuals to change behaviours in the direction that prevent risks, including support groups and communities that take collective action to transform the desired behaviours.

### **Sanitation ladder:**

Presents sanitation coverage as a four-step ladder that includes the proposition of the population, including practicing open defecation, using an unimproved sanitation facility, using a shared sanitation facility, and using an improved sanitation facility.

### **Waste management**

It is a process of handling wastes from production to final disposal without causing danger to the health of the public or degradation of the environment.

Wastes consist of matter which results from mans' activities (domestic, trade premises, offices, factories, Institutions, gardens, animal houses, wastes from roads and construction sites and slaughterhouses) that is no longer needed for his use. These include:

- Solid waste.
- Liquid waste
- Gaseous wastes

#### **Solid waste:**

Consists of dry refuse from kitchens, streets, gardens, animal's houses, workshops etc.

#### **Liquid waste:**

Consists of wastewater, produced from kitchens, bath places, wash places and includes effluents from factories which are known as industrial wastes.

#### **Gaseous wastes**

Gaseous waste includes fumes produced in the process of production, fuel combustion and burning carbon dioxide, ammonia, bio-phenols, hydrocarbons charcoal and tar, monoxides.

#### **Special wastes**

These include sharps, blood, placentas, X-rays bi-products, expired drugs, body remains and bedding and clothes. Medical wastes should be specially treated by incineration or burying.

#### **Trachoma Follicular Prevalence:**

Five or more follicles greater than 0.5 millimeters (mm) in the conjunctiva of either eye.

#### **Vector:**

According to the World Health Organization, "Vectors are anthropoids and insects that play host to disease-causing organisms like mosquitoes, tsetse flies, and house flies among others."

#### **Vermin:**

Are rodents like rats and nuisance insects like cockroaches that cause harm to animals and plants and may also play an intermediate role in disease transmission.

#### **Community-led total sanitation (CLTS)**

An integrated approach to achieving and sustaining open defecation-free (ODF) communities. Includes facilitating the community's analysis of their sanitation profile, their practices of defecation and the consequences, leading to collective action to become ODF.

#### **Triggering**

A journey of self-realization where a community identifies faeces in the open environment, and through a facilitated understanding that they are unknowingly ingesting faeces, takes action to

prevent health risks to individuals and the community.

## ODF

Faeces that are not openly exposed to the air. A direct pit latrine without a lid is an example of open defecation (fixed-point open defecation), but with a fly-proof lid—with or without ash to cover the faeces after defecation—it qualifies as an ODF latrine.

## Personal hygiene

The cleaning of all parts of the body: face, hair, body, legs, and hands. Some activities include showering, washing hair, cleaning teeth, and putting on clean clothes, when necessary.

## Follow-up Mandona (FUM)

An action-oriented approach to accelerate the end of open defecation after the initial CLTS triggering session. Based on the CLTS principles, FUM is a series of facilitated sessions with the entire community to reinforce behaviour change and collectively undertake small, immediate, and doable actions to become ODF in the shortest time possible.

## Sanitation marketing

An emerging field that applies social and commercial marketing approaches to scale up the supply and demand for sanitation and hygiene facilities.

## Sustainable Development Goal 6 Targets for Water Sanitation and Hygiene

SDG Goal 6: Ensure Availability and Sustainable Management of Water and Sanitation for All

6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all.

6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping, and minimizing the release of hazardous chemicals and materials, halving the proportion of untreated waste water, and substantially increasing recycling and safe reuse globally.

6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity, and substantially reduce the number of people suffering from water scarcity.

6.5 By 2030, implement integrated water resources management at all levels, including through trans-boundary cooperation, as appropriate.

6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers, and lakes.

6a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling, and reuse technologies.

6b Support and strengthen the participation of local communities in improving water and sanitation management.

The National Sanitation and Hygiene Guidelines provide a framework to support line ministries, local governments, urban authorities, institutions, civil society organizations, the private sector, and other stakeholders to plan, implement, monitor, and evaluate their own sanitation and hygiene programmes.

The old guidelines were produced in 2000 and distributed to most of the implementers. However, some implementers were not reached, such as community-level health workers and the private sector. The revised guidelines will have to be distributed and shared by all implementers and partners through dissemination workshops and engagements in the different fora. The new changes include administrative, political, technical areas and the Sustainable Development Goals (SDGs) which need to be addressed for improved sanitation and hygiene.

To adequately address the identified challenges and demands, the Ministry of Health has updated the guidelines. New areas considered important to improve the sanitation and hygiene efforts have been introduced, including trachoma prevention, behaviour change communication, as well as monitoring and evaluation.

### 1.1 Justification for Updating the Guidelines

Over the years, the government has made significant efforts to address the low levels of sanitation and hygiene in Uganda at the national- and district-level. This is largely a reflection of low demand for improved sanitation and hygiene from communities and households. Different stakeholders have undertaken many initiatives to create demand, create an enabling environment, and improve the supply chain. But, the current efforts have not been adequately guided. The National Sanitation and Hygiene Guidelines will be a reference for the implementers, policy makers, and administrators to direct proper guidance for improving sanitation and hygiene.

### 1.2 Purpose of the Guidelines

These guidelines provide a framework to support line ministries, local governments, urban authorities, institutions, civil society organizations, the private sector, and other stakeholders to plan, implement, monitor, and evaluate their own sanitation and hygiene programmes. They are also intended to promote standardized approaches for sanitation and hygiene improvement in the country. The guidelines describe the common principles, procedures, and organizational responsibilities to be used by the various implementing agencies in sanitation and hygiene. All implementing partners and stakeholders, as they carry out their respective roles and responsibilities, should commit to using these guidelines whenever undertaking sanitation and hygiene programmes.

The guidelines should be implemented in line with relevant laws, including the Public Health Act and the Local Government Act.

### 1.3 Intended Users

These guidelines are guidance for various stakeholders who are implementing sanitation and hygiene programmes.

They will include, but is are not limited to, the Office of the Prime Minister (OPM); Ministry of Health; Ministry of Local Government; Ministry of Water and Environment; Ministry of Education and Sports; Ministry of Lands Housing and Urban Development; Ministry of Gender, Labour and Social Development; Ministry of Agriculture, Animal Industry and Fisheries (MAAIF); Kampala Capital City Authority; National Environment Management Authority; district local



governments; civil society/nongovernmental organizations (NGOs); institutions; the private sector; development partners; media and communication; and individual households.

## **1.4 Objectives of the Guidelines**

### **1.4.1 Overall Objective**

Provide a comprehensive framework for guiding sanitation and hygiene, covering policy formulation, implementing sanitation technologies and behavioural interventions, risk-based hazard identification, and management approaches and monitoring at all levels.

### **1.4.2 Specific objectives**

The guidelines will specifically—

- Support effective humanised implementation of sanitation and hygiene programs
- Promote adoption and sustenance of good sanitation and hygiene practices among Ugandan communities.

### **1.4.3 Scope**

The guidelines have been updated to support sanitation and hygiene interventions at the household, community, and institution levels, as well as provide policy framework for implementation. Key content areas for these guidelines include policy and legal framework, implementation strategies, approaches and tools, implementation levels, technological options, behaviour change communication, and monitoring and evaluation.

These guidelines are intended to strengthen collaboration and coordination among partners during the implementation of sanitation and hygiene programs.

### **1.4.4 How to use the guidelines**

This document will guide Government and non- government institutions, organisations, community groups and individuals regarding the planning, design, implementation and monitoring of sanitation and hygiene interventions in their areas of operation.

## **Planning**

The document provides specific standards for households, communities and institutions to plan and design their sanitation and hygiene systems.

## **Implementation**

It provides technical and scientific information on implementation approaches. Implementers of sanitation and hygiene programs are encouraged to use these guidelines as a key reference document among other technical resources. It can be used as well to design and implement sanitation marketing plans for stimulating demand for services.

## **Monitoring and evaluation**

These guidelines can be used to track extent to which implemented sanitation and hygiene programs are designed and implemented according to national standards. They provide reference on key outcome and output indicators for assessing quality of interventions as well as impact of programs on sanitation practices and health of people.



# CHAPTER 02

## Background

### 1 Sanitation and Hygiene Transformation

Efforts to improve sanitation and hygiene in Uganda have encountered challenges that have impacted negatively on the indicators at the various levels. While in the 1960s, Uganda's latrine coverage was 90–95 percent, a much better coverage compared to the current estimated 79.6 percent (Ministry of Water and Environment performance report 2016). Many factors have been attributed to the decline in the latrine coverage in the country, including, but not limited to, population increase from 9.535 million people in 1969 to 36 million people in 2014. This affected the human resource capacity to respond to issues at the national-, district-, and community-level. For instance, too few extension workers were available to provide adequate guidance and monitoring sanitation and hygiene practices in their communities. This created an excessive burden on the local governments' financial and technical resource base.

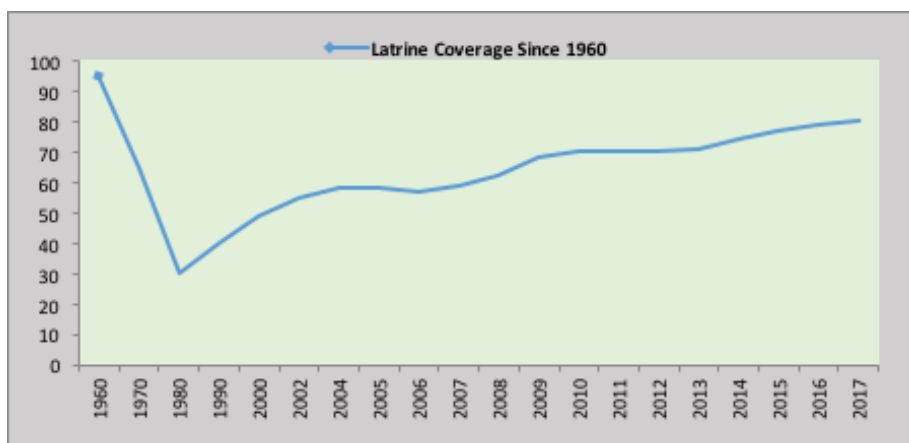
The breakdown in the traditional values and norms affected the community sense of ownership and participation in the sanitation and hygiene response, as well as related issues. Equally, the respect for rules and regulations that govern community health were eroded. As a result, law enforcement was weakened, and extension workers lost their respect for guiding sanitation and hygiene practices in their communities. The home and environmental health improvement campaigns, which were originally undertaken, could not be sustained because of the funding and technical challenges.

Communities became less responsive to sanitation and hygiene issues and instead looked to the government for solutions.

The environmental sanitation situation in Uganda in the 1960s was very different from today. For example, latrine coverage was 90–95 percent at independence in 1962. At that time, the population was smaller (9.535 million people in 1969), the economy was more vibrant, the Public Health Act was applicable, law enforcement was strong, tribal leaders and chiefs were respected, extension workers were listened to, home and environmental health improvement campaigns were undertaken annually, and the government gave it priority.

Following political turmoil and the breakdown of law and order in the 1970s and early 1980s, environmental sanitation conditions deteriorated substantially. National latrine coverage, for example, fell from 95 percent in 1962 to 30 percent in 1983, its lowest recorded level (See illustration 1).

**Figure 1 Trends in sanitation and coverage**



Although considerable progress has been made to address the low levels of sanitation and hygiene in Uganda after the development of national-level policies, regulations, and guidelines; the Kampala Declaration on Sanitation 1997 (KDS 1997); the establishment of the National Sanitation Working Group; signing of the memorandum of understanding between implementing ministries at the centre; and the creation of district water and sanitation coordination committees, improvements in sanitation coverage has been slow: hand washing at 36 percent and pupil-to-latrine/toilet stance ratio in schools at 70:1.

This is largely a reflection of the low demand for improved sanitation and hygiene among communities and households. Many initiatives have been undertaken to create demand, but because of limited funding, their scope has been limited and they have not had significant impact.

## 2 Sanitation-related Diseases

Seventy percent of diseases in Uganda are linked to sanitation and hygiene. Some of these have high prevalence and mortality, such as diarrhoea and malaria, while the Neglected Tropical Diseases (NTDs) are chronic and debilitating. Sanitation also affects the outcome of other disease conditions, such as HIV and AIDS and tuberculosis. Table 2.2 describes the link between common communicable diseases and sanitation.

Table 2.2 Sanitation related diseases

Disease / Conditions	Causative agent	Mode of transmission	Channel of transmission	Prevention/ Control measures
Diarrhea (with and without blood )	Bacteria, virus, protozoa (amoeba)	Unknowingly eating or drinking faeces	Faeces to mouth through Flies, cockroaches, fingers, fluids, fields, food	Construction and use of latrines that are fly proof <ul style="list-style-type: none"> <li>• Hand washing with adequate amounts of water and soap at critical times</li> <li>• Maintaining safe water chain</li> <li>• Ensuring food hygiene</li> <li>• Proper solid waste management</li> </ul>
Cholera	Bacteria (Vibrio cholera)	From faeces to mouth:5Fs	As above	As above
Typhoid	Bacteria (Salmonella typhi and Salmonella paratyphi)	From faeces to mouth:5Fs	” “	As above
Poliomyelitis	Virus (Polio virus)	From faeces to mouth:5Fs	“ “	As above.
Tuberculosis (pulmonary)	Bacteria (Mycobacterium tuberculosis)	Spread through the air - Inhalation	Sputum from an infected person, as he/she coughs, sneezes, spits, laughs, talks. The aerosols get to air and are breathed in	<ul style="list-style-type: none"> <li>• Community-based directly observed therapy for all patients</li> <li>• Contact tracing for all contacts</li> <li>• Avoid over crowding</li> <li>• Improved and hygienic houses</li> </ul>

Disease / Conditions	Causative agent	Mode of transmission	Channel of transmission	Prevention/ Control measures
Trachoma	Bacteria (Chlamydia trachomatis)	Contact with infected eye and contaminated mucus, to potential patients	<ul style="list-style-type: none"> <li>Contaminated dirty hands</li> <li>Dirty clothes/ handkerchiefs</li> <li>Flies from contaminated eyes</li> </ul>	<ul style="list-style-type: none"> <li>Proper hand and face washing with clean water and soap in the morning and evening before going to sleep.</li> <li>Proper and consistent latrine use</li> <li>Use of clean clothes/handkerchiefs to clean face or hands</li> <li>Prompt and proper medical treatment for all cases</li> <li>Provision of antibiotics</li> <li>Surgery for complicated cases to prevent blindness</li> </ul>
Acute Viral Contagious Conjunctivitis	Viruses and bacteria	Contact with infected eye and contaminated mucus.	<ul style="list-style-type: none"> <li>Contaminated dirty hands</li> <li>Dirty clothes/ handkerchiefs</li> <li>Flies from contaminated eyes</li> </ul>	<ul style="list-style-type: none"> <li>Frequent proper hand and face washing with soap</li> <li>Use of clean clothes/handkerchiefs</li> <li>Treatment of all cases</li> <li>Proper solid waste management</li> </ul>
Malaria	Protozoa- Plasmodium	Inoculation	<ul style="list-style-type: none"> <li>Bite from an infected female anopheles mosquito</li> </ul>	<ul style="list-style-type: none"> <li>Treating all cases</li> <li>Vector control (indoor residual spraying, larviciding, manage breeding sites)</li> <li>Sleeping under insecticide-treated mosquito nets</li> </ul>
Tungiasis	Jigger fleas (Tunga penetrans)	Burrowing	Fleas hatch from dusty houses and invade humans	<ul style="list-style-type: none"> <li>Smooth finishing and smearing houses</li> <li>Improve body and house hygiene</li> <li>Dust houses</li> <li>Remove jiggers</li> <li>Use BBE and petroleum jelly</li> </ul>
Giardiasis	Parasite (Giardia lamblia)	<ul style="list-style-type: none"> <li>Ingestion</li> <li>Contact</li> </ul>	<p>Through eating contaminated food or drinking contaminated water</p> <ul style="list-style-type: none"> <li>Unprotected anal sex</li> <li>Contact with infected persons and pets</li> </ul>	<ul style="list-style-type: none"> <li>Proper hand washing with soap</li> <li>Thorough cooking of food (food safety)</li> <li>Boiling drinking water and water for brushing teeth</li> <li>Protected sexual intercourse among gays</li> </ul>
Plague	Bacteria (Yersinia pestis)	Innoculation -	Being bitten by a rodent flea from an animal infected with plague	<ul style="list-style-type: none"> <li>Avoid contact with wild animals.</li> <li>Control rats and fleas</li> <li>Early treatment</li> <li>Vaccination for high risk groups (e.g., lab workers)</li> </ul>

Disease / Conditions	Causative agent	Mode of transmission	Channel of transmission	Prevention/ Control measures
Fungal Skin infections	microscopic fungus	Contact with contaminated person	Sharing contaminated articles like clothes, towels, shoes	Adhere to good hygiene practices: bathe regularly; dry the skin well after bathing; avoid sharing towels & combs; wear loose fitting cotton clothes; and take care in communal areas like showers, saunas, and swimming pools
Bilharzia (Schistosomiasis)	Blood flukes (trematode worms)	Through contact with contaminated water	People with schistosomiasis contaminate water sources with their excreta, which contains parasite eggs that hatch in water, then larval forms of the parasite released by freshwater snails penetrate the skin during contact with infested water	<ul style="list-style-type: none"> <li>• Large-scale treatment of at-risk population groups</li> <li>• Access to safe water</li> <li>• Improved sanitation hygiene education and snail control</li> <li>• Avoidance or reduced contact with contaminated water</li> </ul>
Hepatitis A&E	Hep A & E viruses	<ul style="list-style-type: none"> <li>• Ingestion of faeces</li> <li>• Contact</li> </ul>	Faeces to mouth through contaminated food and water Also, through sexual contact	<ul style="list-style-type: none"> <li>• Practicing good hygiene</li> <li>• Washing fruits before eating</li> <li>• Hand washing with soap</li> <li>• Vaccination</li> <li>• Maintaining quality standards for public water supplies</li> <li>• Establishing proper disposal systems for human feces</li> </ul>
Soil transmitted helminthes (Worm infestations)	Roundworms, hook worms, pin worms, etc.	Ingestion of eggs Penetration in skin	Eating food and drink exposed to human fecal matter contamination	<ul style="list-style-type: none"> <li>• Wash hands with water and soap after using the toilet/latrine and before eating</li> <li>• Boil drinking water</li> <li>• Safe excreta disposal</li> <li>• Properly clean and cook food</li> <li>• Mass deworming</li> </ul>
Pediculosis (Lice infestation).	Pediculus capitis (head), Pediculus corporis (body), and Pthirus pubis (pubic)	Contact	Sharing clothing, beds, bedding, and towels used by infested individuals	<ul style="list-style-type: none"> <li>• Improve hygiene (regular bathing)</li> <li>• Changing into clean clothing, shaving</li> </ul>

## 2.3 Vector and Vermin Control

Certain diseases are transmitted to humans via insect vectors. Vector and vermin control activities attempt to reduce vector-borne diseases by disrupting the life cycle of the vector or reducing the contact of the vector with humans. Vector and vermin control requires a thorough understanding of the ecology and behaviour of the individual vectors and their relationship with the host.

Table 2.3: Vector and Vermin Control

SN	Vector /Vermin	Diseases / Disease Conditions	Prevention Techniques
	Mosquitoes:	Malaria, yellow fever, dengue, viral encephalitis, filariasis	Effective use of long-lasting insecticide-treated bed nets, indoor residual spraying, mosquito repellents, improved construction designs (with screens), destruction/elimination of mosquito breeding and resting sites
	House flies:	Diarrhoea, dysentery, conjunctivitis, typhoid fever, trachoma, and cholera	Proper management of domestic and industrial biodegradable waste, sanitary management of human and animal excreta Institute hygiene food and fluids practices and effective hand washing
	Cockroaches:	Diarrhoea, dysentery, salmonellosis, cholera.	Proper management of domestic and industrial biodegradable waste, sanitary management of human and animal excreta Institute hygienic food and fluids practices
	Lice:	Endemic typhus, pediculosis, relapsing fever, trench fever, skin irritation	Ensure good personal hygiene, use of effective physical and chemical methods
	Bedbugs:	Severe skin inflammation	Ensure good personal hygiene, use of effective physical and chemical methods
	Triatomid bugs:	Chagas' disease	Ensure good personal Hygiene, use of effective physical and chemical methods
	Ticks:	Rickettsial fever, tularaemia, relapsing fever, viral encephalitis, borreliosis	Avoid sharing shelter with domestic birds and animals, target and spray the infested animals and birds
	Rodent (mites)	Rickettsial pox, scrub typhus	Destroy/eliminate the habitats for the rodents, proper management of bio-degradable refuse
	Rodent (fleas, Rat bite)	Bubonic plague, endemic typhus, jiggers, fever, leptospirosis, salmonellosis, melioidosis	Destroy/eliminate the habitats for the rodents; proper management of bio-degradable refuse; target other flea habitants, such as domestic animals and birds; promote good housing; and ensure that floors and walls have a smooth finish

## 2. 4 Challenges That Affect Implementation of Sanitation and Hygiene

Several challenges affect the implementation of sanitation and hygiene programs in Uganda.

Climatic change leading to floods, landslides, and excessive drought in some parts of the country make it extremely difficult for communities to adopt the recommended sanitation and hygiene practices, including latrine use, face washing and hand washing, among others.

Rapid population influx across national borders from conflict and other causes has created sanitation and hygiene challenges by over-running the available resources. This has led to epidemics and the re-emergence of diseases that were near eradication.

Internal migration from pressure on land affects sanitation and hygiene resources and practices.

Traditional beliefs and attitudes continue to have a negative influence on sanitation and hygiene practices. The most common taboo in Uganda is “sharing nakedness by women with their father-in-law if they share the same latrine” and the myth that women using latrines during their reproductive age can cause infertility.

Inadequate access to safe water affects sanitation and hygiene practices and may lead to epidemics.

A lack of information about different technology options limits access and choices to appropriate sanitation solutions for communities. Affordability of sanitation technology affects the access and coverage.

## 2. 5 Effects of Poor Sanitation

### 2. 5.1 Effects on Health

The health benefits of improved household sanitation are broad in scope, ranging from reductions in diarrhoea, helminth infections, and trachoma through the reduced risk of accidents and/or sexual harassment, to enhanced psycho-social well-being from improved dignity and social standing.

### 2. 5.2 Effects on the Economy

An economic study by World Bank Water and Sanitation Program (2012) showed the impacts that result from poor sanitation and hygiene cost the economy of Uganda 380 billion Ugandan shillings (U.S.\$177 million) per year or the equivalent of 1.1 percent of the annual gross domestic product (GDP).

This translates to an average shilling 11,800 (U.S.\$5.5) per capita annually or shilling 22,300 (U.S.\$10.4) per unserved inhabitant.

These figures reflect the

- adverse health effects associated with poor sanitation and water supply
- costs of treating these health problems
- loss of productivity when individuals are sick and others have to care for them
- time spent to access services.

These estimates do not include the costs associated with environmental impacts, e.g., polluted water and adverse impacts on tourism and business.

### 2. 5.3 Effects on Education:

A study conducted by the Uganda Ministry of Education determined that 2.7 percent of all students' time is lost to sickness from sanitation-related illnesses. Many schools, particularly rural primary schools, do not have adequate sanitation facilities, especially for girls. Lack

of segregated latrine facilities for girls is a major cause of dropout and prevents girls from full participation in education. Many primary schools have no adequate latrines and only 33 percent of schools surveyed had segregated latrine facilities for girls. These inadequacies have a significant relationship to the high dropout rate of adolescent girls from primary schools, where they have no changing facilities and lack privacy.

## **2. 5.4 Effects on the Environment.**

Poor sanitation leads to environmental degradation and the pollution of water sources by indiscriminate disposal of solid and liquid wastes. Contamination of lakes and rivers by untreated human waste affects aquatic life and increases the cost of producing safe water. Environmental damage discourages tourism and affects trade. It reduces fish production, reduces arable space, and increases the cost of cleanup operations.

## **2. 6 Benefits of improved sanitation**

Improving sanitation and hygiene can have a range of impact in Uganda. The diarrhoeal morbidity rate could be reduced by as much as 36 percent with improved excreta disposal and an additional 33 percent with improved hygiene; lowering the infant mortality rate to as low as 66 per 1,000 live births. Under-5s nutritional stunting rates would be reduced to 30 percent. Universal primary education would be enhanced, particularly for girls and learners with disabilities. Households would lose less time in sickness and would be more productive.

## **Health Impacts of Improved Household Sanitation**

Author: Beth Scott, November 2006

Quality Assurance: Sandy Cairncross and Andrew Cotton



## Legal, Policy and Institutional Framework

This section highlights the legal, policy, and institutional framework on which these guidelines are developed. They include those at the international, regional, and national level. Policies are considered critical for creating an enabling environment to improve access to sanitation and hygiene services.

### 3. 1 Legal and policy

#### 3. 1 .1 Global level

<b>Sustainable Development Goals (SDGs) 2015</b>	The guidelines are in line with Goal 3, which ensures healthy lives and promotes well-being for all ages; and Goal 6, which ensures the availability and sustainable management of water and sanitation for all.
<b>Sanitation Water for All (SWA):</b>	It is a multi-stakeholder partnership to catalyze political leadership and improve accountability to achieve a sustainable vision of sanitation, water, and hygiene for all—always and everywhere.

#### 3. 1.2 Regional Level

<b>Libreville Declaration 29 August 2008 on Health and Environment in Africa:</b>	African ministers responsible for health and the environment met from 28 to 29 August 2008 in Libreville, Gabon. They adopted the Libreville Declaration on Health and Environment in Africa. They reaffirmed their commitment to implement all conventions and declarations that bear on health and environment linkages. They committed themselves to 11 areas of action and called upon World Health Organization and the United Nations Environment Programme to support the implementation and to help African countries share experiences, develop capacity, and establish a mechanism for monitoring progress. In addition, to establish an African network for the surveillance of communicable and non-communicable diseases, especially those with environmental determinants.
<b>Ngor Declaration on Sanitation and hygiene 2015</b>	The Ngor Declaration on Sanitation and Hygiene Adopted by the African Ministers responsible for sanitation and hygiene on 27 May 2015 at Dakar, Senegal. The vision was to achieve universal access to adequate and sustainable sanitation and hygiene services and eliminate open defecation by 2030

#### 3. 1.3 National Level

<b>Constitution of Uganda 1995</b>	The constitution of the Republic of Uganda chapter four states fundamental human right to protect and promote the right to a clean and healthy environment: Section 39.
<b>Public Health Act 2000</b>	Part ix—Sanitation and Housing: Article 54, Nuisances prohibited. Article 57 states that no person shall cause a nuisance, or shall suffer to exist on any land or premises owned or occupied by him or her, or of which he or she is in charge, any nuisance or other condition liable to be injurious or dangerous to health.



<b>Local Government Act 1997: as Amended</b>	Second Schedule. Part 2. Functions and services for which district councils are responsible, subject to article 176(2) of the Constitution and sections 96 and 97 of the Act include, but are not limited to, vector control, environment sanitation, health education, and water services.
<b>Constitution of Uganda 1995</b>	The constitution of the Republic of Uganda chapter four states the fundamental human right to protect and promote the right to a clean and healthy environment: Section 39.
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<b>Local Government Act 1997: as Amended</b>	Second Schedule. Part 2. Functions and services for which district councils are responsible, subject to article 176(2) of the Constitution and sections 96 and 97 of the Act include, but are not limited to, vector control, environment sanitation, health education, and water services.
<b>Water Act 1997:</b>	Article 50. Provides for the formation of Water user groups and water and sanitation committees and are responsible for sanitation and hygiene in the area.
<b>National Environment Act Amended 2015:</b>	Regulations prohibit discharge of effluent or waste on land or into the aquatic environment contrary to established standards and without a waste discharge permit. It provides for the general obligation to mitigate pollution by installation of antipollution equipment for the treatment of effluent and waste discharge emanating from an industry or establishment, as well as sampling of effluent and waste water analysis. It also provides for control of air and noise pollution.
<b>Water and Sewerage Act 1995 (Cap. 317).</b>	Provides to operate and provide water and sewerage services in areas entrusted to it under the Water Act. It shall, among other things, provide water supply services for domestic, stock, horticultural, industrial, commercial, recreational, and environmental; and other beneficial uses.
<b>The Kampala Capital City Act, 2010 (chap 243)</b>	This Act establishes Kampala as the capital city of Uganda, as mandated by Article 5 of the Constitution. It aims to provide the governance and administrative framework for Kampala by the central government, as well as create the Kampala Capital City Authority as the governing body of the city. The Ministries responsible for health and the environment shall oversee the public health and environment matters respectively in the Capital City.
<b>National Development Plan II (NDPII) 2015/16-2019/20</b>	Aims at driving the country towards middle income status by 2020 through strengthening the country's competitiveness for sustainable wealth creation, employment and inclusive growth.
<b>Uganda Vision 2040:</b>	Provides development paths and strategies to operationalize Uganda's Vision statement, which is "A Transformed Ugandan Society from a Peasant to a Modern and Prosperous Country within 30 years" as approved by Cabinet in 2007. It aims at transforming Uganda from a predominantly peasant and low-income country to a competitive upper middle-income country.
<b>National Planning Authority</b>	Established by Act of Parliament: Act No. 15 of 2002, in compliance with Article 125 of the 1995 Constitution of the Republic of Uganda. National Planning Authority (NPA) as an autonomous statutory agency charged with managing the national and decentralised planning in the country. NPA is the principal statutory agency for managing the national and decentralized development planning in Uganda.



<b>National Development Plan II (NDPII) 2015/16-2019/20</b>	Aims at driving the country towards middle income status by 2020 through strengthening the country's competitiveness for sustainable wealth creation, employment, and inclusive growth.
<b>National Health Policy II: 2010/2015</b>	Section 6.2 of the NHP II addresses the minimum health care package which spells Health promotion, environmental health, disease prevention and community health initiatives, including epidemic and disaster preparedness and response as cluster number one.
<b>National Health Policy II: 2010/2015</b>	Section 6.2 of the NHP II addresses the minimum health care package, which spells health promotion, environmental health, disease prevention, and community health initiatives, including epidemic and disaster preparedness and response as cluster number one.
<b>Health Sector Development Plan 2015/16-2019/20:</b>	Specific Objective 2: provides for the key determinants of health and one of the Programme/ service area is Environmental health and sanitation with key intervention of Promoting improved hygiene and sanitation at household level and in public places.
<b>Uganda National Malaria Control Policy 2011:</b>	The policy covers malaria control and prevention interventions which include, integrated vector management.
<b>National Environmental Health Policy 2005:</b>	Establishes environmental health priorities of government of Uganda and provides for development of Environmental Health services and programmes at National and Local Government levels.
<b>Uganda Public Health Services Protocols (2016):</b>	Aims at improving the living conditions of the people of Uganda through community owned public health interventions including sanitation and hygiene.

### 3.2 Institutional framework

The Ministry works closely with other Government Ministries, Local Governments, the Private Sector and Non-Governmental Organizations (NGOs) and other stakeholders at Community, District, Regional and National levels. The Sector's institutional framework is set out in the figure below:-

## Health Sector Institutional Framework

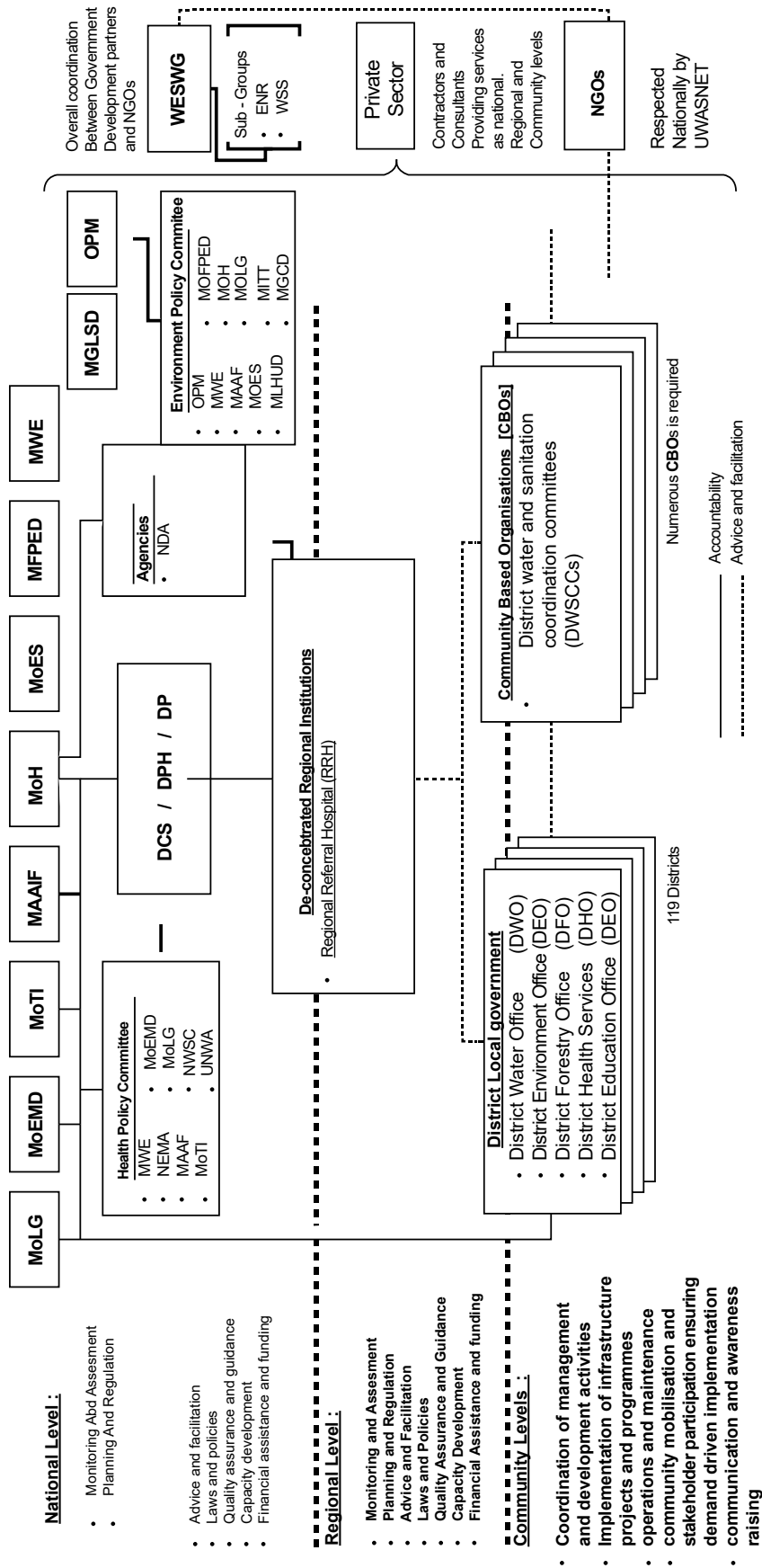
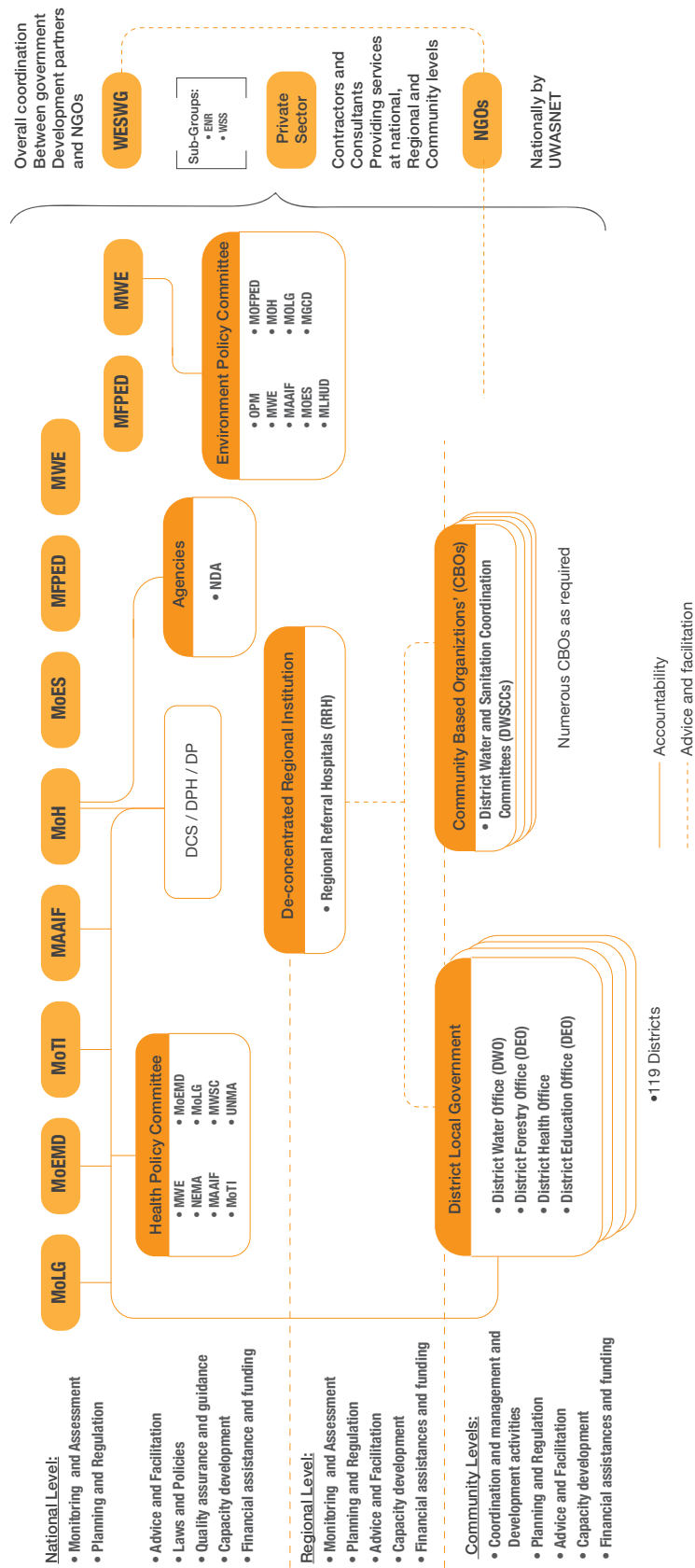


Figure 2 Institutional frame work

# Health Sector Institutional Framework




 CHAPTER  
04

## Strategies, Approaches and Tools

This section describes the strategy and approaches used in sanitation and hygiene advocacy and promotion. Improved Sanitation and Hygiene (ISH) is the main strategy in sanitation and hygiene and it has many approaches under it.

### 4. 1 The ISH Strategy

This sector strategy offers a set of options based on actual practice in the districts. ISH strategy emphasizes the three pillars: (1) demand creation, (2) supply chain/social marketing, and (3) creating an enabling environment.

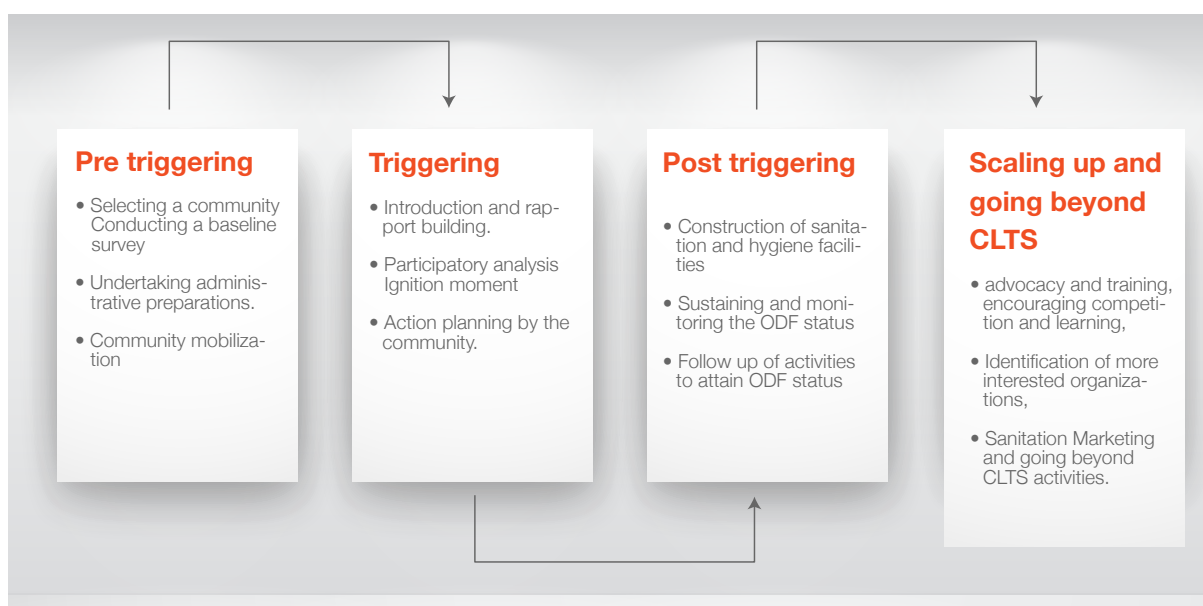
- **Demand creation: *Create a demand*** for behaviour change to construction and use of sanitation and hygiene facilities. A wide range of activities target creating demand for sanitation and hygiene. These include, but are not limited to, sanitation marketing, participatory approaches such as CLTS, home improvement campaigns and competitions, taking to scale the Kampala Declaration on Sanitation Strategies (KDS+), and social marketing of face washing and hand washing with water and soap.
- **Improving the Supply Chain:** Sanitation supply improvement in terms of development of pro-poor, affordable technology options and an improved private sector supply chain for construction and maintenance of facilities. In addition, improving the supply chain includes capacity building support to local governments, nongovernmental organizations, entrepreneurs, and other identified stakeholders that are part of the chain of people delivering sanitation and hygiene promotion services. It includes support of training local artisans in the basics of latrine construction under varying technological options and linking communities to financial support institutions (FSI).
- **Create an Enabling Environment:** Communities are supported to advocate for political will and exemplary leadership; support and facilitate accelerated scaling up of sanitation and hygiene activities through increased funding, application, and implementation of the policy and legislative framework; coordination; and monitoring and learning. Enact ordinances and by-laws and enforce them; document and disseminate best practices.

### 4. 2 Approaches

The approaches include:

#### 4. 2.1 Community Led Total Sanitation

CLTS is an innovative methodology for mobilising communities to completely eliminate open defecation (OD). Communities are facilitated to conduct their own appraisal and analysis of OD and take their own action to become open defecation free (ODF). CLTS focuses on the behavioural changes needed to ensure real and sustainable improvements—investing in community mobilisation instead of hardware, and shifting the focus from latrine construction for individual households to creating “ODF” villages. See illustration 3.

**Figure 3. Community-Total Sanitation Process****Pre triggering**

Pre-triggering involves selecting a community, conducting a baseline survey, and undertaking administrative preparations before the appraisal.

**Triggering**

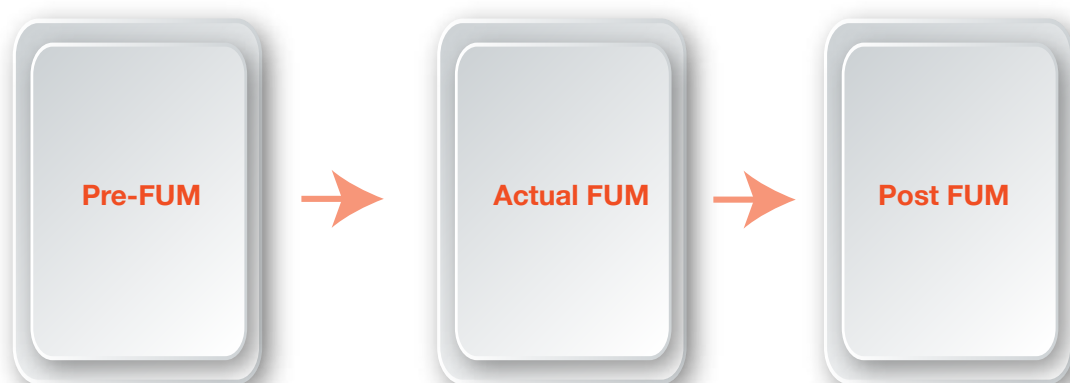
Triggering involves introduction and rapport building, participatory analysis, the ignition moment, and action planning by the community.

**Post triggering**

Post-triggering involves construction of latrines by the community, sustaining and monitoring the ODF status, external encouragement to the community, and verification and certification for the ODF status.

**Follow up Mandona (FUM) concept in CLTS**

It is an action-oriented follow-up approach that aims to motivate communities to take simple immediate doable action(s) to drive the community towards ODF status. See Figure 4.

**Figure 4. Steps in FUM**

## FUM Principles

### Respect the CLTS Process:

- Self-analysis, commitment, and action plan
- Pre-FUM—Actual FUM—Post-FUM
- Emergence of Natural Leaders (NLs), Community Engineers (Ces), Champions
- Disgust, shame, and dignity
- Provoking but cautious
- Immediate actions: small, immediate, and doable actions towards some models and ODF
- Zero prescription.

### Targets and expected results

Just like triggering, FUM has targets as:

- The whole community
- The local actors: authorities, potential NLs, CEs, VHT

The following is expected:

- The targeted people/communities are triggered and convinced.
- Immediate collective actions towards the OD elimination.
- Establish a clear plan for the next step.

### Scaling up and going beyond CLTS

Scaling up and going beyond CLTS involves advocacy and training, encouraging competition and learning, identification of more interested organizations, sanitation marketing, and going beyond CLTS activities.

#### 4. 2.2 School Led Total Sanitation (SLTs)

It is an approach used to improve sanitation and hygiene practices in a school. It focuses on behavior change of an entire school to end open defecation.

#### 4. 2.3 Model Villages Approach (MVA)

Promotes concentration areas/villages identified and selected to have their homesteads improved with the basic home requirements using locally available materials. Model villages act as triggers to other villages that have not yet been selected as model villages.

#### 4. 2.4 Home and Environment Improvement Campaigns (HIEC)

Homesteads are mobilized to improve. Competitions are held to select the best winners with all the basic home requirements, and they qualify for prize awards.

#### 4. 2.5 Public Health Regulation and Enforcement (PHRE)

Although the focus of most of the approaches in these guidelines is to induce positive behavioural change, the issue of law enforcement is still of great importance. It is advisable to enforce laws in circumstances where negligence and resistance to change is noticed. The authorities are compelled to exercise their jurisdiction to coerce those who refuse to construct and use sanitation and hygiene facilities. For defiant defaulters of environmental health facilities, legal action in a court of law is a last resort to have them provide and use the necessary basic requirements.



## 4.2.6 Sanitation Marketing

Sanitation marketing is an approach that applies social and commercial marketing principles to scale up the supply and demand for improved sanitation and hygiene facilities. It focuses on market-based solutions and sustained changes in the sanitation behaviour of individual households and communities. Sanitation marketing applies the marketing mix of five Ps: Place, Price, Product, Promotion, and Partnerships. In this context, place refers to sell points/outlets; products include physical items, such as latrines, squatting plates, pre-cast slabs, sanplat slabs, handwashing facilities like tippy-taps and soap; and services like emptying. Price refers to the market price of the sanitation and hygiene products and services at the respective village, while promotion refers to communicating details about the product, price, place, and the behaviour promoted to the target audience. Sanitation marketing programmes engage the partner with private sector business, government and development organizations, and institutions to take key roles in sanitation demand creation and supply strengthening.

### 4. 2.7. Child –To –Child approach:

This educational process links children’s learning with taking action to promote the health, well-being, and development of themselves, their families, and their communities.

### 4. 2.8 “Bulungi Bwansi”:

This is a traditional approach where local leaders spearhead households in collective environmental health maintenance in homes, public places, clearing roads and bushes, cleaning around water sources, and mobilizing for food security. See illustration 5.

#### illustration 1 “Bulungi Bwansi”



### 4. 3 Participatory tools

In general, there is low commitment to improved sanitation and hygiene. One reason is that unlike water, which people see as a survival need, people do not regard sanitation and hygiene in the same way. They do not see latrines and hygiene habits as part of basic survival.

The participatory tools are a range of techniques that are used to operationalise the approaches. In this section, some of the following have been highlighted:

#### 4. 3.1 Participatory Hygiene and Sanitation Transformation (PHAST)

This tool promotes hygiene and sanitation improvement and community management for sustainable hygiene and sanitation behaviour change; specifically, developed participatory techniques for communities and institutions are used.



#### 4. 4.3.2 Kampala Declaration on Sanitation (KDS)+10 of 1997

Reflects the commitment of national and district leaders to implement and improve sanitation and hygiene at the district and lower local government levels following the 10-point strategy for action.

#### 4. 3.3.The SARAR Methodology

This participatory approach, often known as learner-centered, is a way to help learners take greater control of their lives and their environment by developing skills in problem solving and resource management. The SARAR approach focuses more on the development of human capacities to assess, choose, plan, create, organize, and take initiatives. SARAR stand for—

- S Self Esteem:** The self-esteem of groups and individuals is acknowledged and enhanced by recognizing that they have the creative and analytical capacity to identify and solve their own problems.
- A Associative Strength:** The methodology recognises that when people form groups, they become stronger and they develop the capacity to work together.
- R Resourcefulness:** Each individual is a potential resource to the community. The method seeks to develop the resourcefulness and creativity of groups and the individuals in seeking solutions to problems and/or achievement of the needs.
- A Action Planning:** Planning for action to solve problems and/or to fulfill the needs is central to the method. Change can be achieved only if groups plan and carry out appropriate actions.
- R Responsibility:** The community takes over the responsibility for follow through. Actions that are planned must be carried out. Only through such responsible participation do results become meaningful.

#### 4. 3.4.Mapping :

Participants use whatever materials are available to create a map of their community that shows its water sources and sanitation facilities. This helps people visualise their overall situation.

The map can be drawn on the ground with a stick or on a large sheet of paper. Participants then use the map to discuss water and sanitation problems facing the community. See illustration 2

**Illustration 2: A community mapping exercise in progress**



#### 4. 3.5 Sanitation ladder:

This uses a set of pictures that show different sanitation levels of implementation. Participants arrange them on a scale from worst to best, like steps on a ladder. They identify their own situation and look at the advantages of moving up the ladder.

#### 4. 3.6. Transmission Routes and Blocking the Routes

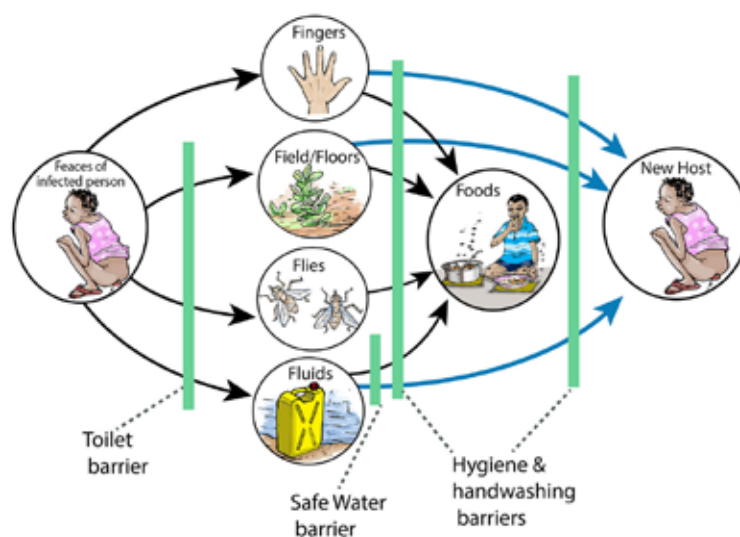
This activity starts with a set of pictures showing different ways that faecal-oral contamination can occur.

Participants organise these pictures based on what they know about diarrhoeal disease transmission. The second activity involves working out how these transmission routes can be blocked.

To help with this activity, participants are given pictures of common “barriers” (e.g., latrines, hand washing, etc.) that can be used to block any of the transmission routes of faecal-oral disease. See illustration 7.

The barriers are then discussed, depending on their effectiveness and practicality.

#### Illustration 3: Transmission routes and blocking them.



#### 4.3.7 Gender task analysis:

In this activity, participants sort a set of pictures that depict household and community tasks based on the person who normally performs them: a man, a woman, or a man and a woman together.

People assess the way tasks are distributed by gender and it clarifies the workload differences between men and women.

#### 4. 3.8 Story with a gap:

This activity uses two pictures: one showing a “before” scene (a problem situation) and one showing an “after” scene (improved situation or solution). The pictures encourage a discussion on the steps to move from the “before” to the “after” situation. In this way, they fill in the “gap” in the story. This helps simplify the planning process by dividing it into a series of steps.

#### 4. 3.9 Three Pile Sorting

Participants sort pictures of hygiene or sanitation-related situations, according to whether they are considered good, bad, or in-between.


 CHAPTER  
05

## Implementation Levels

The Ministry of Health is the lead agency for sanitation and hygiene improvement in the country. Other government and nongovernmental entities play various roles and responsibilities in improving sanitation and hygiene.

Level	Role
1. Office of the Prime Minister (OPM)	<ul style="list-style-type: none"> <li>• Overall coordination of ministries</li> <li>• Disaster preparedness and response</li> <li>• Monitoring and evaluation</li> </ul>
2. Environmental Health Division (Ministry of Health)	Formulation and dissemination of <ul style="list-style-type: none"> <li>• Sanitation and hygiene policy, standards, and guidelines</li> <li>• Planning and budgeting for sanitation and hygiene</li> <li>• Resource mobilization, advocacy, and networking</li> <li>• Coordination of Sanitation and Hygiene (S&amp;H) activities</li> <li>• Research and documentation</li> <li>• Supervision, monitoring, and evaluating of S&amp;H programs</li> <li>• Capacity building.</li> </ul>
3. Ministry of Finance, Planning and economic development	<ul style="list-style-type: none"> <li>• Mobilizes funds and allocates funds to government sectors</li> <li>• Reviews sector plans</li> <li>• Reports on sector compliancy with sector and national financial performance</li> <li>• Coordinates development partners inputs</li> </ul>
4. Ministry of Education and Sports	<ul style="list-style-type: none"> <li>• Planning and budgeting for S&amp;H in institutions</li> <li>• Sanitation and hygiene promotion in institutions</li> <li>• Hygiene education</li> <li>• Provision of sanitation and hygienic facilities in those institutions</li> <li>• Construction</li> </ul>
5. Ministry of Water and Environment (Directorate of Water Development and Directorate of Water Quality)	<ul style="list-style-type: none"> <li>• Managing water resources</li> <li>• Planning and budgeting for water resources</li> <li>• Designing and disseminating appropriate water technological options</li> <li>• Developing water sources</li> <li>• Coordinating, regulating, and monitoring water and sanitation activities (urban sanitation)</li> </ul>
6. Ministry of Local government	<ul style="list-style-type: none"> <li>• Mobilize resources</li> <li>• Support supervise local governments</li> <li>• Planning and budgeting</li> </ul>
7. Ministry of Gender, Labour and Social Development	<ul style="list-style-type: none"> <li>• Aligning policies to be gender responsive</li> <li>• Social mobilization</li> <li>• Capacity building</li> <li>• Planning and budgeting</li> </ul>

Level	Role
8. Development Partners	<ul style="list-style-type: none"> <li>• Mobilize resources</li> <li>• Advise government on policy</li> <li>• Advocacy</li> </ul>
9. Kampala Capital City Authority (KCCA)	<ul style="list-style-type: none"> <li>• Formulate and implement policies</li> <li>• Plan and budget</li> <li>• Mobilize resources</li> <li>• Advocacy and networking</li> <li>• Procurement of sanitation and hygiene facilities</li> <li>• Supervision, and monitoring and evaluation</li> <li>• Capacity enhancement</li> <li>• Operational research and documentation</li> <li>• Data collection and utilization limited to Kampala</li> </ul>
10. National Water And Sewerage Corporation-	<ul style="list-style-type: none"> <li>• Provide hygiene and sanitation services in urban areas (sewerage works)</li> <li>• Supervise these services</li> <li>• Mobilize resources</li> <li>• Coordinate these services</li> </ul>
11. National Environmental Management Authority (NEMA)	<ul style="list-style-type: none"> <li>• Coordinate and monitor all environment management issues in the country</li> <li>• Plan and budget</li> <li>• Proposal policies, strategies, guidelines, and standards</li> <li>• Enforce the law where lead agencies have failed to take actions</li> </ul>
12. Training institutions	<ul style="list-style-type: none"> <li>• Train human resource for delivery of sanitation and hygiene services</li> <li>• Engage in research, innovations, and documentations for sanitation and hygiene</li> <li>• Influence policy formulation through advocacy 3</li> </ul>
13. Civil Society Organisations	<ul style="list-style-type: none"> <li>• Implement alongside government</li> <li>• Build capacity, skills development, and technology transfer</li> <li>• Resource mobilization</li> <li>• Advocacy sanitation and hygiene</li> </ul>
14. Private sector	<ul style="list-style-type: none"> <li>• Construction of S&amp;H facilities</li> <li>• Improve supply chain for S&amp;H (soap manufacturing, sato pans, san plats manufacturing),</li> <li>• Social mobilization and education</li> </ul>

Level	Role
15. District local governments	<ul style="list-style-type: none"> <li>• Implement government policies</li> <li>• Plan and budget for sanitation and hygiene</li> <li>• Advocacy and networking</li> <li>• Policy formulation</li> <li>• Formulate ordinances and by-laws</li> <li>• Procurement of sanitation and hygiene facilities</li> <li>• Supervision, and monitoring and evaluation</li> <li>• Capacity enhancement</li> <li>• Operational research and documentation</li> <li>• Data collection and utilization</li> </ul>
16. Sub-County	<ul style="list-style-type: none"> <li>• Implement government policies</li> <li>• Plan and budget for sanitation and hygiene</li> <li>• Advocacy and networking</li> <li>• Formulate by-laws</li> <li>• Provision of sanitation and hygiene facilities</li> <li>• Supervision, and monitoring and evaluation</li> <li>• Capacity enhancement</li> <li>• Data collection and utilization</li> <li>• Community mobilisation</li> </ul>
17. Parish	<ul style="list-style-type: none"> <li>• Needs assessment for sanitation and hygiene</li> <li>• Community mobilization and sensitization</li> <li>• Data collection and utilization</li> <li>• Verification of hygiene and sanitation status of villages</li> </ul>
18. Villages	<ul style="list-style-type: none"> <li>• Needs assessment for sanitation and hygiene</li> <li>• Community mobilization and sensitization</li> <li>• Data collection and utilization</li> <li>• Verification of hygiene and sanitation status of households</li> <li>• Make claims of sanitation and hygiene improvements in their households</li> <li>• Make and enforce by-laws and resolution for sanitation improvement</li> <li>• Notification of disease outbreaks to relevant authorities</li> <li>• Identify and contribute locally available materials and other resources for sanitation and hygiene</li> <li>• Identify and support vulnerable households and individuals</li> </ul>
19. Households	<ul style="list-style-type: none"> <li>• Provide components of an ideal household (hygienic house, kitchen, latrine, sun tables, etc.)</li> <li>• Provide sanitation &amp; hygiene facilities (latrines, hand washing facilities, refuse pits)</li> <li>• Operate and maintain the home environment in a clean state</li> <li>• Provide facilities that are user friendly to vulnerable persons</li> <li>• Operate and maintain sanitation facilities</li> <li>• Practice hand and facial washing, menstrual hygiene management.</li> <li>• Prevent and control occurrences of vectors and vermin within houses</li> <li>• Participate in community meetings and other health initiatives.</li> <li>• Report occurrences of diseases</li> </ul>

## 6.1 Institutional Sanitation

An institution is a complete property; its building, facilities, and services have a social, education, or religious purpose. This includes schools, colleges or universities, hospitals, nursing homes, homes for the aged, prisons, barracks, various types of welfare facilities, and mental and detention facilities. Most institutions are communities. They have certain characteristics in common that require careful planning, design, construction, operation, and maintenance. In considering institutional sanitation, certain important factors need to be given consideration, including—

### 1. Selection

Sub-soil investigation (valley, wetland, landfill) and location (proximity to sources of noise, air pollution, etc.).

### 2. Water supply

Safe and potable water, water for fire protection, and water for other uses (e.g., sanitation, gardening, etc.).

### 3. Sewage disposal

Sewers/waste water disposal, excrete disposal system, and drainages/storm water disposal system.

### 4. Solid waste disposal system

Where solid waste is collected, stored, transported, and disposed of properly.

### 5. Food preparation and service facilities

Food and food hygiene safety where the food chain is realized—from the source to the consumer.

## 6.2 Risk factors for special situations

Special situation or settings include distinct institutions and groups of people:

- Homogeneous Institutions like; schools, prisons, army barracks/detaches, police barracks, mental health facilities, day care facilities/baby homes especially for children under 5 years.
- Internally displaced persons and refugee camps.
- Hostels, Slums and landing sites.

### 6.2.1 Peri-urban/informal settlements

Sanitation service delivery in the informal settlements is of special importance because many poor urban residents live in the unplanned and underserved informal settlement commonly known as slums. In these settlements, onsite sanitation is a norm associated with the reluctance of some landlords to provide adequate sanitation and hygiene facilities for tenants. This challenge is beyond achieving an open defecation free environment to designing other appropriate ideal settlement requirements.

**The following should be done to ensure proper sanitation and hygiene promotion:**



- Cluster congested/informal settlements to provide shared facilities (e.g., shared septic tanks and toilets).
- Provide adequate workforce and budget lines for enforcing sanitation standards at the community level.
- Urban authorities should acquire land in various congested areas/informal settlements and construct communal drainable sanitation and hygiene facilities.
- Set up a community system for access to sanitation and hygiene services like information on emptying cesspool services (faecal sludge collection and transportation), etc.
- Community leaders should offer sensitized sanitation and hygiene promotion.
- Create a user fee at the household level to meet the costs of faecal sludge emptying services (e.g., combine emptying fee with solid waste collection charges, property tax, or a sanitation fee).
- Local authorities should ensure that the physical planning aspects at all levels facilitate the proper provision of sanitation and hygiene services.
- Urban authorities should use required standards, etc., to regulate the private sector engaged in constructing sanitation and hygiene facilities.
- Enforce the relevant laws.<sup>3</sup>

### 6.2.2 Emergency or refugee settlements

These settlements are often unstable, with incoming and outgoing populations during a short period of time. Sanitation promotion in these settlements needs to create a sense of “community” building because these camps are often settled with people from the same ethnic group or area. The primary aim should be to involve the refugees in managing their own sanitation.

The following should be emphasized when implementing sanitation and hygiene programmes.

- The Office of the Prime Minister (OPM) at the national level and the District Disaster Management Committee (DDMC) at the district/urban authority level should develop a functional and effective institutional and operational framework for emergency situations.
- Provide temporary shelter and sanitary facilities in settlement areas (refer to technical options).
- Provide relief food and non-food items (e.g., blankets, utensils, and tools).
- Develop and implement disaster plans.
- Provide safe and clean water, and routinely monitor its quality.
- Sensitize the population on proper sanitation and hygiene practices.
- Share information with communities on the control and prevention of disease outbreaks.
- Promote planning of settlements and demarcation of plots with adequate space for houses, latrines, bath shelters, and garbage disposal.
- Advocate for more resources committed to sanitation for refugees.
- Active tracking—registration of refugees and frequent updating of refugees’ population data.
- Formulate and enforce by-laws using refugee leadership structures.

### 6.2.3 Mobile Populations

These are mainly nomadic pastoralists who move in search for pastures and water for their animals, but they do not have permanent settlements. The sanitation problem in these settlements is open defecation, and poor hand and facial cleanliness practices. Communities prefer to use open fields and dry river beds to dispose of their human excreta and communities are usually resistant to change imposed from outside the community.

The following should be done to ensure proper sanitation and hygiene promotion:

- Build on the existing structures (e.g., elder dominated system for decision-making to promote sanitation and hygiene (refer to technological options).
- Sensitize people about the health risks of living with animals.
- Use a culturally appropriate process to make men aware and involve women in discussions/decision-making on sanitation matters.

### 6.2.4 Fishing villages

These are usually highly populated areas; the people live in shanty houses with inadequate sanitation facilities. Communities in these areas are usually of low social-economic status, and also tend to be migratory. They cannot commit resources to constructing permanent houses, and certainly not sanitation facilities. Because they cannot access these facilities, they resort to open defecation. The situation is worsened by poor attitudes, behavior, and practices for proper sanitation and hygiene.

**The following should be done to ensure proper sanitation and hygiene:**

- Work through the Fisheries Department and Beach Management Units (BMUs) to train their staff on hygiene and sanitation.
- Integrate sanitation into the fisheries department programs (e.g., use meetings).
- Engage in community dialogues especially with the fishermen's leaders, BMUs, and groups to promote sanitation and hygiene.
- Set up a planned system of plots from the start and use affordable model housing units to encourage fishing groups to establish ecofriendly and well-planned settlements.
- Enforce public health laws and regulations.
- Register all fishing families in each village and limit the number of fishing permits issued for each site.
- Provide suitable sanitation and hygiene facilities and privatize them for proper operation and maintenance.

### 6.2.5 Transit stopovers

Sanitation and hygiene services for people in transit have long been neglected in the road transport sector and, as such, most highways have limited or no sanitation facilities. This has encouraged open defecation by travelers along all major upcountry routes.

The following should be done to ensure proper environmental sanitation.

- Ministry of Works and Transport should incorporate sanitation facilities when designing plans for the major roads.
- Using private-public partnerships, local governments transected by these routes should identify stopover points where free sanitation and hygiene facilities are available (e.g., fueling stations, roadside markets etc.).
- Encourage bus and taxi transporters to only make stopovers at designated points.
- Enforce the Public Health Act that prohibits open defecation.

### 6.2.6 Gender issues

Inadequate access to sanitation and hygiene disproportional affects poor women and girls because they are often faced with additional challenges related to menstrual hygiene, personal safety, sexual harassment, and violence.

Decisions to provide sanitation facilities in households are usually done by men because they are the main resource controllers. But, in situations where these facilities are poor or nonexistent,



women and girls suffer the most. Society expects women to operate and maintain these facilities and they are also expected to impact behaviour change to children because they spend more time at home with them. Traditionally, men perceive sanitation- and hygiene-related issues as a woman's responsibility. This affects access to sanitation and hygiene facilities at the household level, which influences the risk of related diseases.

In this context, the following should be done to ensure gender mainstreaming aspects in sanitation and hygiene service delivery at the various levels.

- Ensure that all the overall national sanitation frameworks are gender sensitive.
- Local governments should ensure gender-sensitive budgets so they can access the economic value of policy commitments on gender equality.
- Give importance to the participatory processes by ensuring the full participation of the poor, the illiterate, and women.
- Plan and budget the incorporation of gender activities within the district work plans.
- Monitor gender and other activities by involving communities in monitoring their own projects, improving value for money, and success in the district auditing process.
- Ensure that sanitation technology selection is based on knowledge and demand from the communities, particularly the women.
- Give importance to affirmative action and diversity in recruitment at the district level.
- Improve the position of women in society through sanitation activities, such as gender sensitive by-laws for good governance within water and sanitation committees and protecting participation of all groups, ensuring at least 50 percent representation of women. In addition, women should be encouraged to hold key positions on the water and sanitation committee.
- Undertake close planning with the line ministries for synergy; effectively use the resources.
- Promote income generating strategies to ensure that women are not economically dependent.

### 6.2.7 Disability and Elderly issues

Sanitation services and facilities tend to ignore the needs of people with disabilities (PWD). As a result, large numbers of these people are often excluded from ordinary sanitation and hygiene services and facilities. Every community has PWDs, so sanitation and hygiene programmes should include them. Improved access to sanitation facilities brings a range of benefits to people with disabilities and their families, including dignity, self-reliance, and improved health.

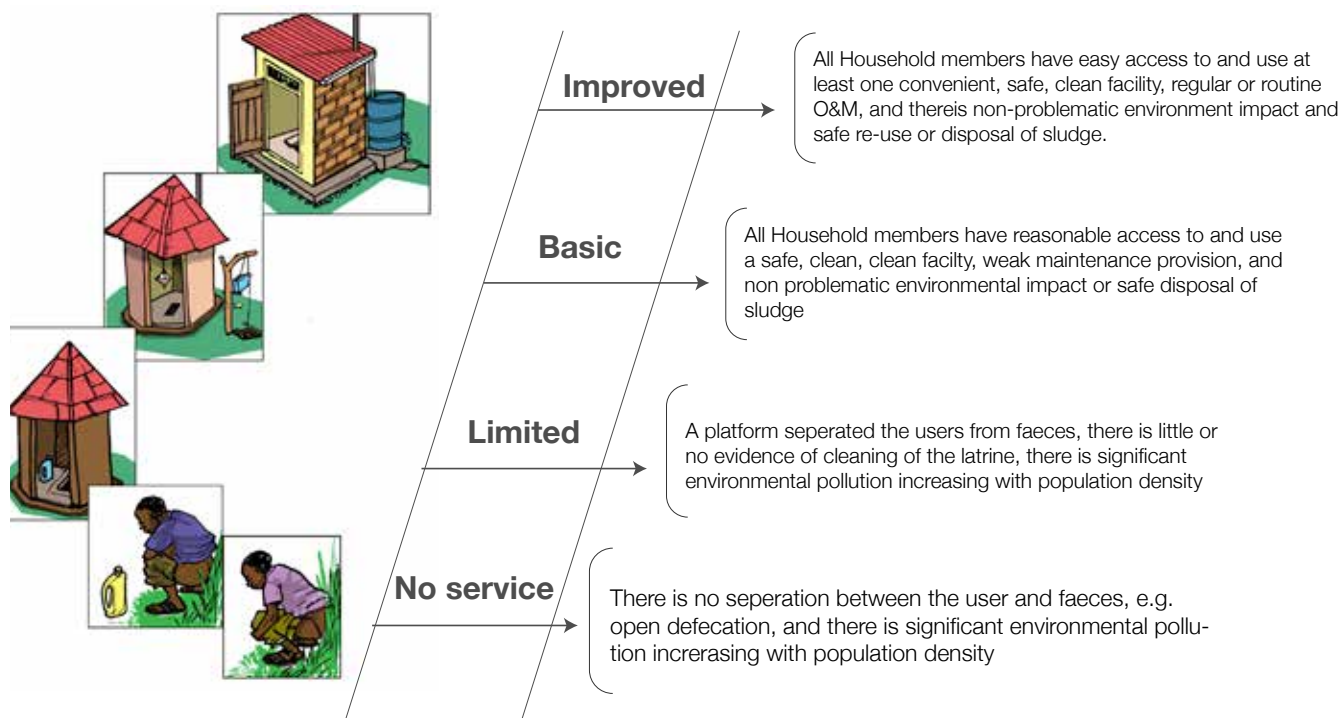
The following should be done to ensure inclusion of disability perspectives in all hygiene and sanitation programmes:

- Recognize and implement policy provisions for PWDs.
- Inter-sectoral collaboration: Relevant sectors should work together to address the needs of PWDs.
- Disabled Peoples Organizations (DPOs), where they exist, should be on board and get involved in the consultation, collaboration, and coordination processes.
- Collect and use baseline data: Providing disability inclusive sanitation programmes requires relevant baseline data.
- Community assessments, undertaken as part of the planning process, should include information on PWDs. PWDs and their families should be involved in problem solving and identifying the best sanitation options for them.
- Uganda has guidelines on sanitation for people with disabilities. These can help guide institutions, including families to design sanitation and hygiene facilities.

## Technological Options

This section provides a description of different technology options, from simple to complex. These options show the variations in the three components of a latrine—substructure, sanplat, hole, and superstructure—as well as their applicability to different physical conditions. See illustration 4, which explains the sanitation ladder.

### Illustration 4 SDG Sanitation ladder for latrine improvement



## 7.1 Human Excreta Disposal

### 7.1.1 Dry conservancy options

#### 7.1.1.1 Traditional pit latrine

This includes a timber and murrum slab over a pit that may be 5 metres (m) or more in depth. The slab should be firmly supported on all sides and raised above the surrounding ground to prevent surface water from entering the pit. If the sides of the pit are likely to collapse, they should be lined with brick or stone, or made in a trapezoidal shape. A squat hole area in the slab, or a seat, will ensure that the excreta falls directly into the pit. When the latrine is not being used, a tight fitting wooden cover over the squat hole will keep flies out of the pit. A concrete sanitation platform (sanplat) (0.5m × 0.5m) can be placed over the squat hole for ease of cleaning, or the squat hole area can be rendered smooth with cement mortar for those who cannot afford the slab. The smell and fly nuisance can be reduced by throwing handfuls of ash or lime into the pit each day, or by smoking the pit at least once a week.

### Formula

The life span of the traditional pit latrine can be determined by using a formula with the following facts.

a. Lifespan (years) is directly proportional to the effective capacity (m<sup>3</sup>) of the pit

LS (years)                      Effective capacity of pit (m<sup>3</sup>)..... (i)

b. Lifespan (years) is inversely proportional to the number of users

LS (years) 1

Number of users of the latrine ..... (ii)

From the two equations above,

LS (years) Effective capacity (m<sup>3</sup>)

Number of users

(Introduce proportionality constant)

The constant in this case is the solid accumulation rate (SAR). In the tropics, where the consumed food is rich in insoluble fibre, and anal cleansing is mainly from biodegradable material, this SAR is 60 litres (0.06 m<sup>3</sup>) per capita, per year.

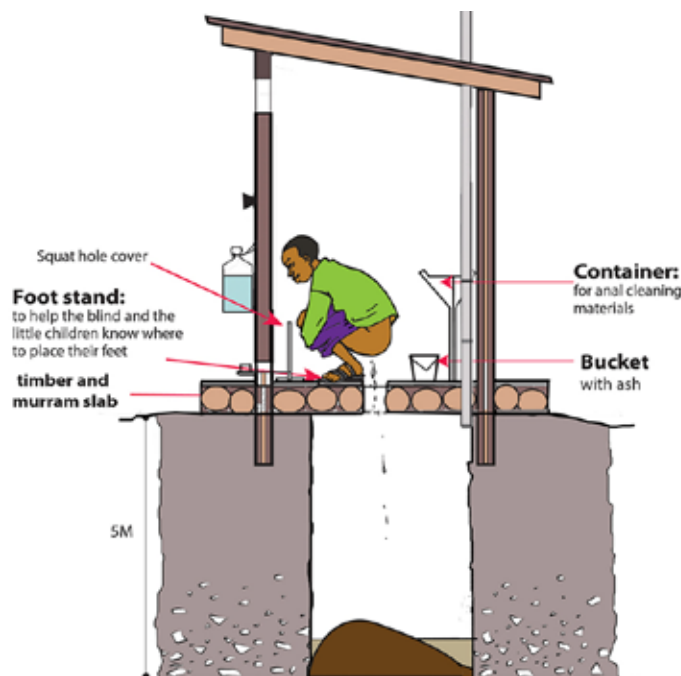
$$\text{LS (years)} = \frac{\text{Effective capacity (m}^3\text{)}}{\text{(Number of users x SAR)}}$$

NB: Effective capacity (m<sup>3</sup>) = cross-sectional area (m<sup>2</sup>) × effective depth or height of pit (m)

Effective depth = actual depth (m) – 1m (actual depth minus 1 meter)

This formula applies to traditional pit latrines of existing pit and improved pit latrines with unlined pits. See illustration 5.

### Illustration 5: Cross section of Traditional Latrine



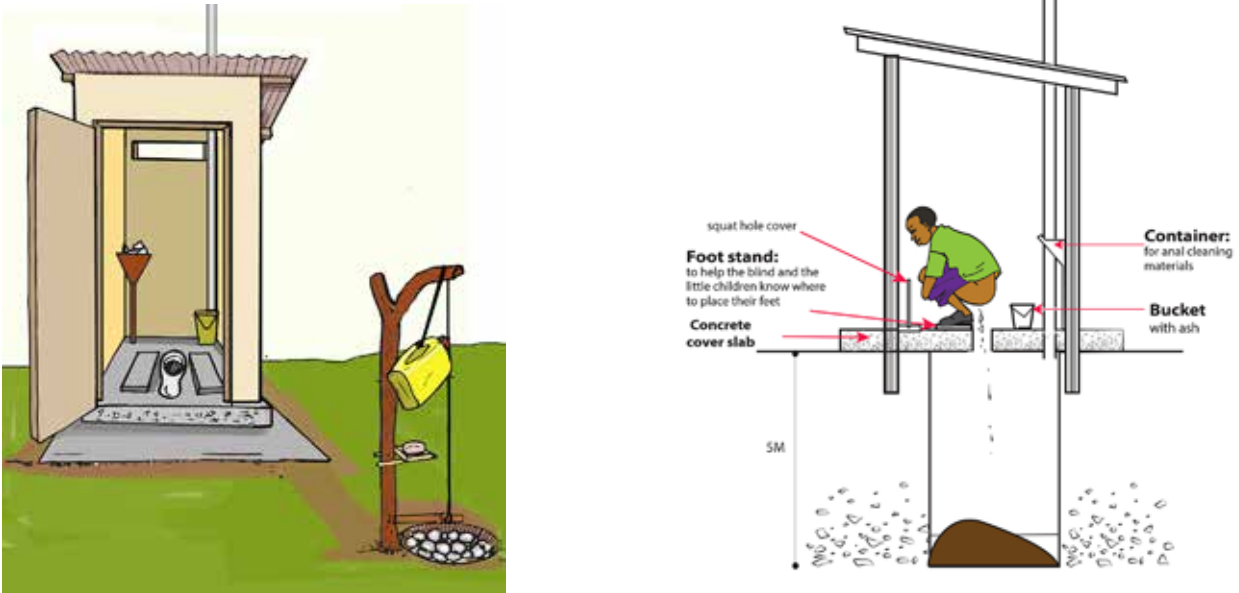
#### 7.1.1.2 Improved traditional Pit Latrine

This latrine is similar to the traditional pit latrine, but the slab is made of reinforced or shaped concrete. The slab should be firmly supported on all sides and raised above the surrounding ground to prevent surface water from entering the pit. A tight fitting wooden or concrete squat hole cover is placed over the pit hole to prevent flies from going into or out of the pit. To reduce

the smell and fly nuisance, throw handfuls of ash or lime into the pit each time it is used, or smoke the pit at least weekly. See illustration 10.

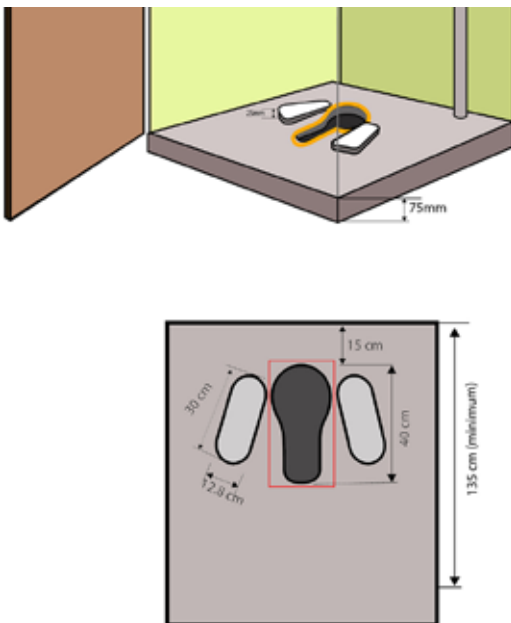
The slab should be firmly supported on all sides and raised above the surrounding ground so that surface water cannot enter the pit. The sides of the pit can be lined to prevent the walls from collapsing. A squat hole in the slab allows excreta to fall directly into the pit. The pit, in most cases, is used until it is filled up and then it is left to digest the excreta. The old pit latrine is demolished. A separate pit is then dug and a superstructure is built on it and it is ready for use.

**Illustration 6: Improved pit latrine**



### 7.1.1.3 Ventilated Improved Pit Latrine

**Illustration 7: Ventilated Improved Pit Latrine**



This is similar to the traditional pit latrine, but the floor is concrete or a reinforced slab with a ventilated pipe. A ventilated improved pit latrine controls fly infestation and odour. A pipe extends above the highest point of the latrine roof—30 centimeters (cm)—and a tight fly-proof netting (preferably with 1.5 millimeter [mm] mesh) stretches across the top of the pipe to ventilate the pit. See illustration 7.

If the inside of the superstructure is kept dark, flies and odour can be substantially reduced in a simple pit latrine by using a ventilated pipe that extends above the latrine roof, with fly-proof netting across the top. These incremental improvements are sufficient to convert a simple pit latrine into a ventilated improved pit (VIP) latrine.

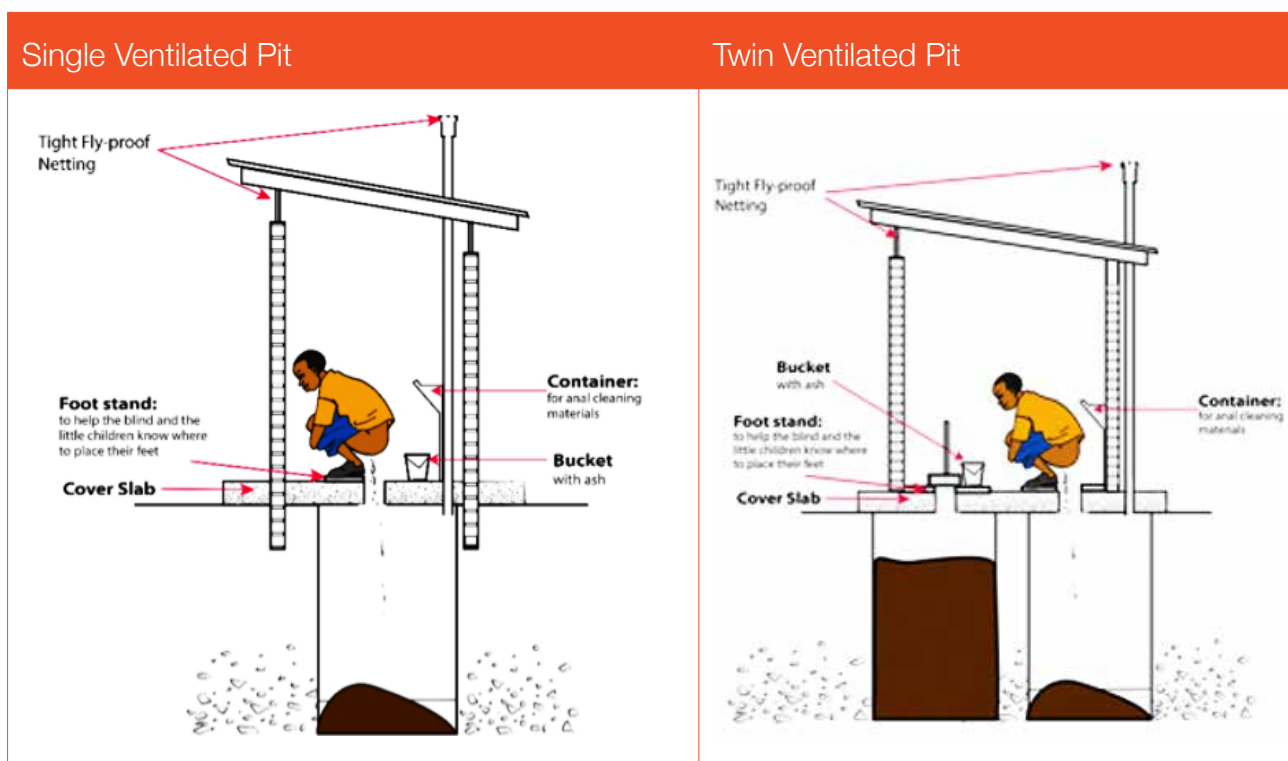
**There are two types of VIP latrines: single pit and alternating twin pit.**

**Single VIP:** A single pit is dug. A vertical ventilation pipe is installed, which takes away the smell. Wind blowing across the top of the pipe sucks air out of the pit while fresh air flows into the pit through the squat hole, which must be left uncovered. To control flies, the shelter must be kept dark and the ventilation pipe should have mesh fitted over the top. See illustration 8.

**Alternating twin VIP:** The twin pit has two adjacent pits below the latrine room; only one pit is used at any given time. When one pit fills up, it is sealed and the other pit is used. When the second pit fills up, the contents of the first have fully decomposed and can be used as manure. The pit is then emptied and returned to service until it fills up again and the cycle is repeated. See illustration 9.

**Illustration 8: Single Ventilated Pit**

**Illustration 9: Twin Ventilated Pit**



#### 7.1.1.4 ECO-SAN Latrine

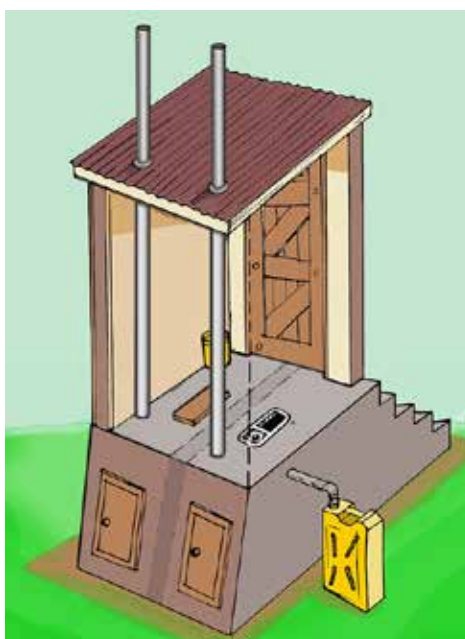
Ecological sanitation (eco-san) is an alternative to conventional sanitation systems. It attempts to address the shortcomings of the traditional systems. The most common form of an eco-san toilet used in Uganda is the urine diversion dry toilet (UDDT). In urine diversion dry toilets, urine and faeces are collected separately, and no water is used. The urine is collected in containers, mostly jerry cans and sometimes plastic tanks; after which it is applied in the garden as fertiliser, sometimes immediately, but often after storage for two to six months.

Urine diversion dry toilets usually have two vaults/chambers. In Uganda, they are designed with a filling time of 6–8 months for each vault. When one vault fills up, it is closed and the second one is used. When the second vault is filled, the source-separated faeces are removed from the first vault (where they will have undergone containment storage of 6–8 months). The faeces are then treated in secondary treatment systems (e.g., thermophilic composting or additional storage up to a total storage time of more than one year); and, thereafter, they are applied in

the garden to add humus and nutrients to the soil and to increase its agricultural productivity. See illustration 10.

During the collection phase, one of the materials (usually also referred to as additives), such as lime, soil, ash, sawdust, etc. (depending on which one is available or affordable) is sprinkled on the source-separated faeces to keep away flies and odours and, also, to affect conditions (moisture, pH, temperature, nutrients, etc.), which impact the rate of inactivation of pathogens in faeces. Ultimately, the fertilizer obtained from the sanitized source-separated faeces from the toilet systems should be free of pathogens. The latter is a major health concern because, at the household level, the product requires some handling. In some cases, where the reuse is not practiced (e.g., in urban or peri-urban areas), the faeces are sometimes disposed of in dug pits or are just carried away and disposed of offsite, while urine may also, in such cases, be soaked into the soil.

### Illustration 10: Urine Diversion Dry Toilet



## 7.1.2 Adapting sanitation technologies to difficult conditions

### Type of Latrine Where There is Small Space for Construction of Latrines

Experience with community-led total sanitation has shown that the reason people do not adopt safe sanitation is not due to lack of space, but because they do not feel a need for safe sanitation at the collective level. Some innovative ways this issue has been tackled include—

The latrine squatting slab and superstructure can be on the roof of the house, but the pit can be under the main room of the house.

- Individuals can donate land to the less privileged.
- Two neighbors can have separate superstructures and squatting slabs, but share a common pit.
- Households that do not have adequate space in the house for building a latrine can join together to construct community or group latrine facilities.

### Type of Latrine Where there is Hard Rock Close to the Surface

It can be difficult and costly to dig a pit where hard rock is close to the surface. Two strategies to deal with this are—

- A raised pit latrine can be built where the pit is partially above the ground level.
- A dry urine diverting eco-san latrine can be constructed

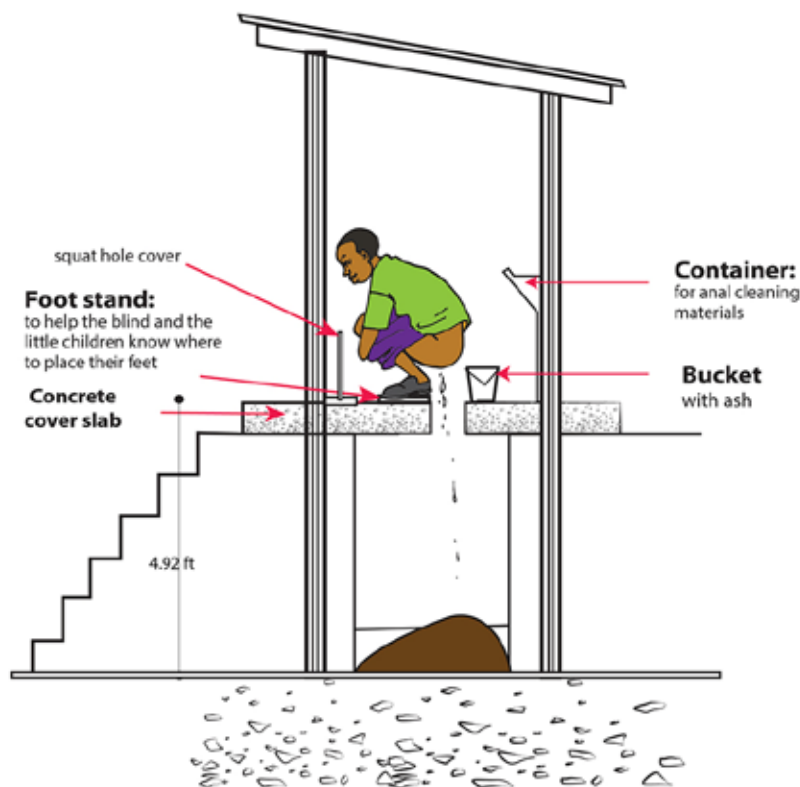


## Type of Latrine for Areas with High Water Table?

If the water table is high and groundwater is used for the water supply, a number of solutions can be applied to prevent contamination of the groundwater:

**Raised pit latrine:** The bottom of the pit should be at least 4.92 feet (1.9m). above the water table level. It is important to know how many people will be using the pit so that it can be the right size. Many small capacity latrines, wide rather than deep, are preferable to fewer large capacity latrines.

**Illustration 11: Sand-Enveloped Pit Latrine/Raised Latrine**



**Sand-enveloped pit latrine/raised pit latrine:** A sand-enveloped pit latrine can be constructed around a lined pit to reduce the risk of groundwater pollution. This envelope is usually 1.64 feet (61cm) thick. See illustration 11.

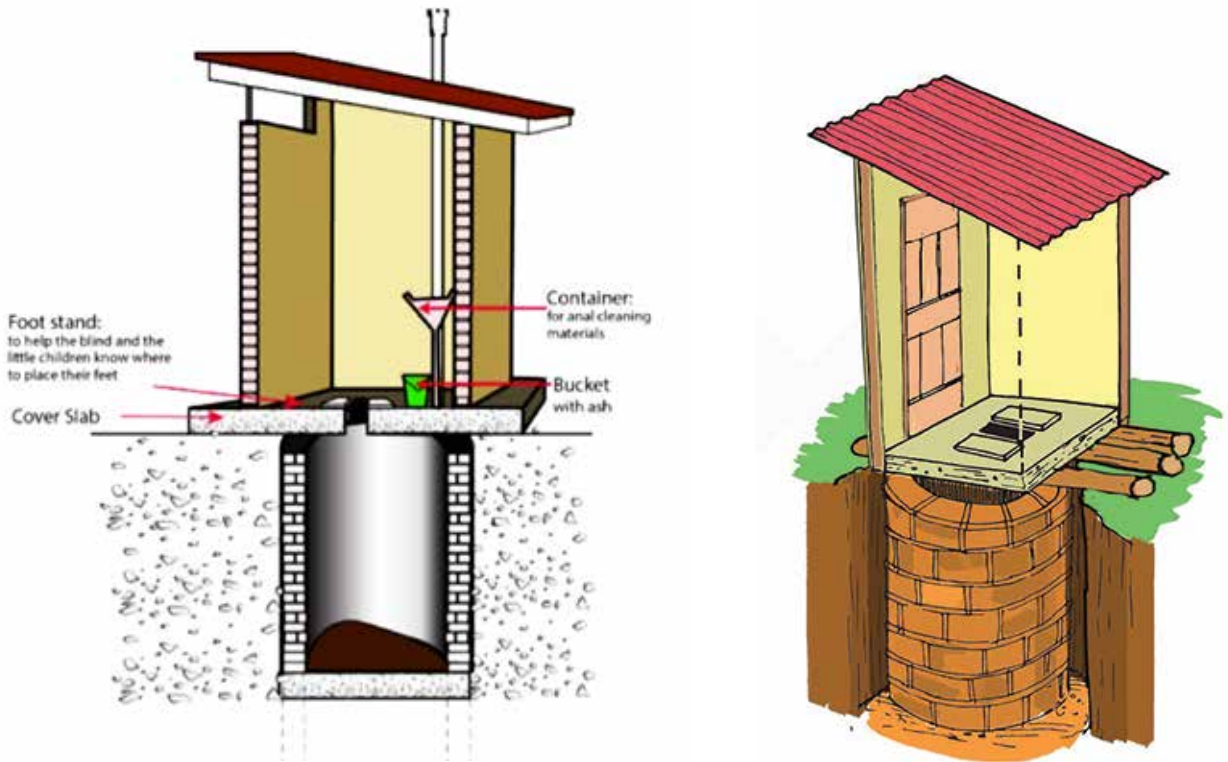
**Lined Pits:** These are still pit latrines, but they are used where soils conditions are unstable with loose and collapsing soils. The sides of the pit are lined with bricks and stone work fixed with cement. The lined pit is also recommended when the latrine will be emptied. The best procedure for lining the pit is as follows:

- Provide a 3-inch concrete base at the bottom of the pit to receive the brick works.
- Mortar both the vertical and horizontal joints up to the 3rd course.
- From the 3rd course on, only mortar the horizontal joints to facilitate percolation through the vertical joints.

### Concrete Ring Liners:

These are a type of technological option used to support loose collapsing soils (will be described later). See illustration 12..

## Illustration 12: Concrete Ring Liners

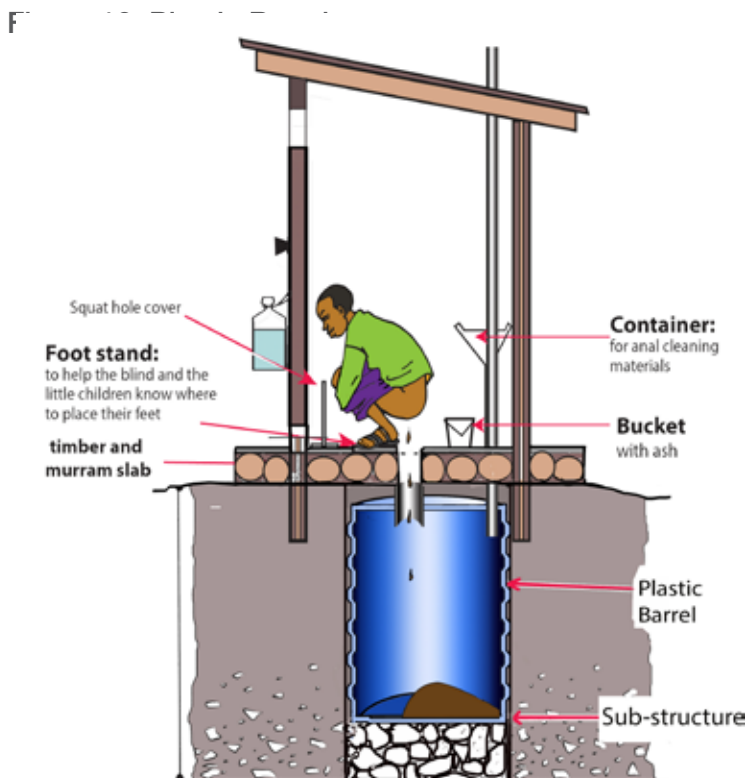


### Plastic Barrels:

This technological option is applicable in areas with a high water table and collapsing soils.

A number of plastic containers are lined up and connected through a pipe to the superstructure, which is buried upright in the ground. See illustration 13.

### illustration 13. Plastic Barrels





Soil Conditions and Appropriate Sanitation Options Conditions	Possible Solutions
Lack of space	<ul style="list-style-type: none"> <li>• Individuals can donate land to the less privileged.</li> <li>• Two neighbors can have separate superstructure and squatting slabs but share a common pit.</li> <li>• Households that do not have adequate space in the house for building toilets can come together to construct community or group latrine facilities.</li> </ul>
Rocky ground	<ul style="list-style-type: none"> <li>• A raised pit latrine where the pit is partially above the ground level or build a dry urine diverting eco-san toilet.</li> </ul>
High water table	<p>A raised pit latrine: the bottom of the pit should be at least 4.92 feet (1.9m) above the water table level.</p> <p>Sand-enveloped pit latrine/raised pit latrine: a sand envelope can be constructed around a lined pit to reduce risk of groundwater pollution. This envelope is usually 1.64 feet (61cm) thick.</p> <ul style="list-style-type: none"> <li>• A UDDT, which does not need pits and is built above the ground</li> </ul>

### 7.1.3 Water Borne Sanitation Systems

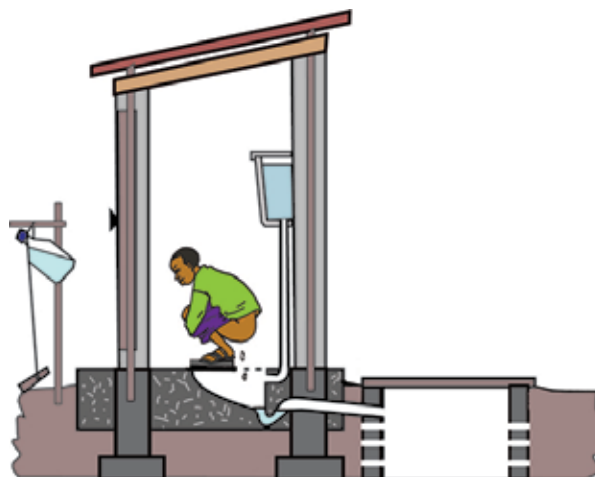
#### Water closet

The water closet, also called a cistern flush toilet, is made of ceramic material. The flush toilet has two parts: a tank (cistern) that stores flushing water for carrying away the excreta and a bowl into which the excreta are deposited. The cistern is connected to the bowl through a pipe that supplies water to the bowl. The excreta are drained through a pipe away to a septic tank or a sewer line. See illustrations 14 and 15.

Illustration 14: Flush toilet



Illustration 15: Flush toilet system

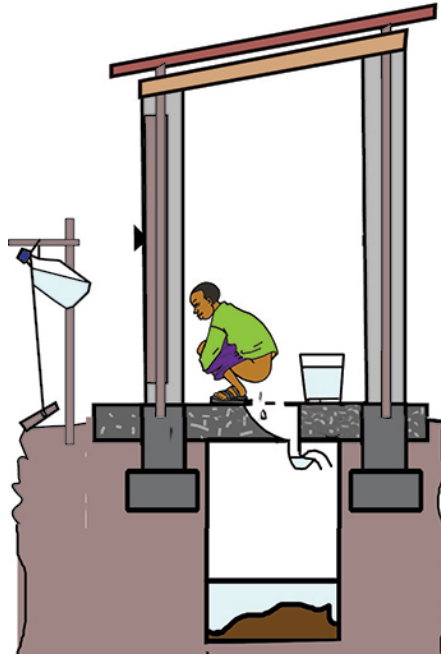


#### Pour-flush toilets

A pour-flush toilet is like a cistern flush toilet except that, instead of the water coming from the cistern above, the user pours it in. When the water supply is not continuous, any cistern flush toilet can become a pour-flush toilet. Water is simply poured into the bowl manually from a bucket or a jug to flush the excreta; approximately 2–3 litres of water is usually sufficient. Pour-flush toilets share all the advantages of cistern flush toilets but they use a lot less water. The wastewater should be disposed of in a septic tank or seepage pit, also known as a leach pit.

See illustration 16

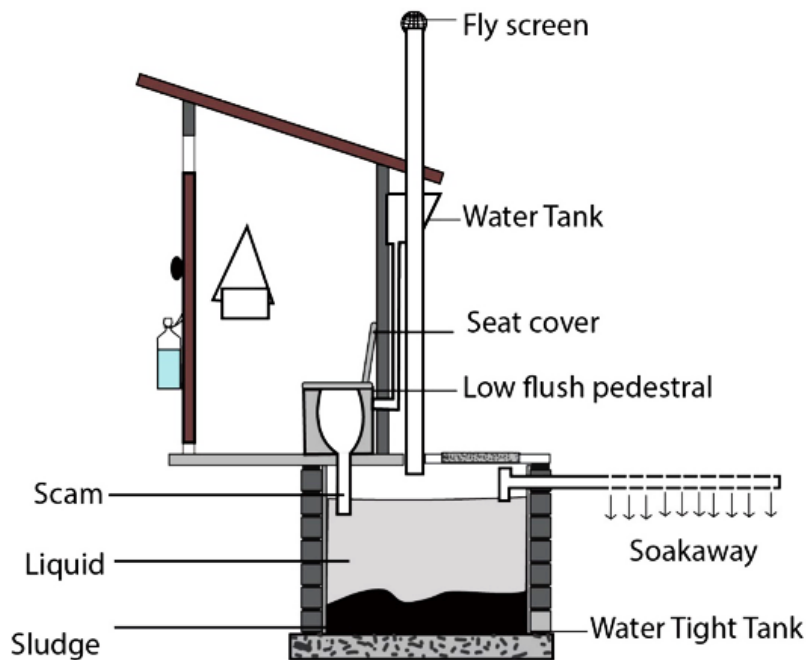
**illustration 16: Pour-Flush Toilet**



### **Aqua privy**

The aqua privy is a single pit latrine with a watertight pit filled with water. Excreta drops into the pit and wastewater is displaced into a storage chamber, a soak-away pit or a sewer line. Accumulated solids (sludge) must be removed regularly. Enough water must be added to compensate for evaporation and leakage losses. See illustration 17.

**illustration 17: Aqua Privy**

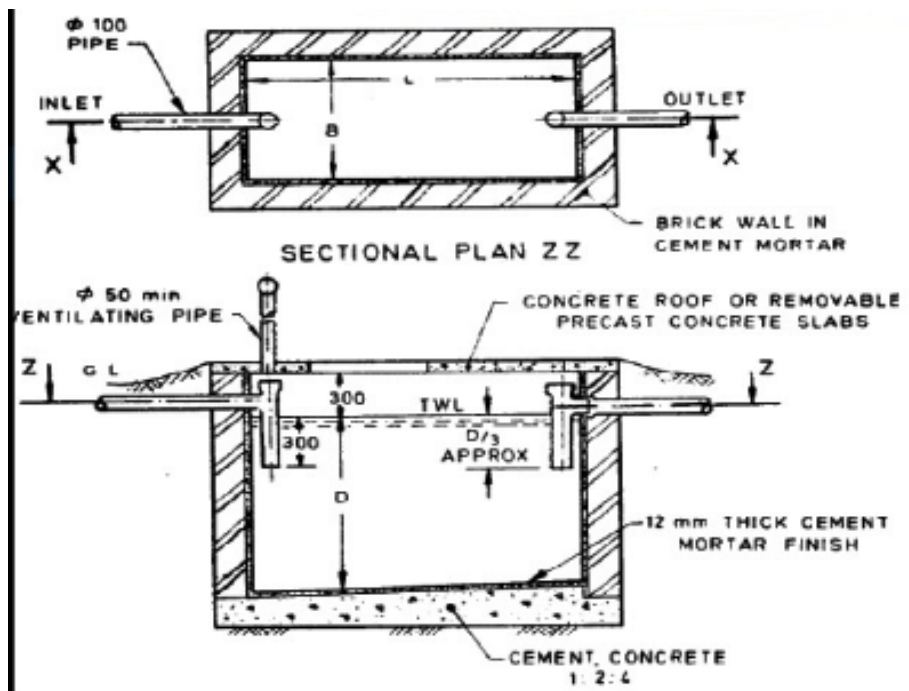


### **Septic tanks**

A septic tank is a watertight chamber, usually made of concrete, and it is usually under the surface of the ground. See illustration 18. The human waste is washed into the tank, where it is

stored and partially treated. The purpose of a septic tank is for the solids to settle down under the wastewater and for anaerobic decomposition of organic solids to take place. Septic tanks should only be used in places where water is plentiful and where vacuum/cesspool emptier trucks are available to remove sludge periodically from the chamber.

**Illustration18. Septic Tank Measurements**



### Sanitation technologies for PWDs

It is vital that while designing sanitation facilities, especially for communal settings, special consideration should be made for PWDs to ensure that they have enough space to maneuver in and out of the pit latrine with the moveable devices, like a wheelchair. See illustration 19.

The latrine/toilet cubicle should be 180cm wide, and 80cm between toilet hole and back wall, 150cm toilet hole and door, and the pedestal hole should be 25cm long and 18cm wide. Ramps with rails should be provided to enable wheelchair users and persons with mobility difficulties to enter the latrine/toilet. Adequate space should be provided for turning the wheelchair around. See illustration 20.

**Illustration 19. Toilet Facility for Disabled Persons**

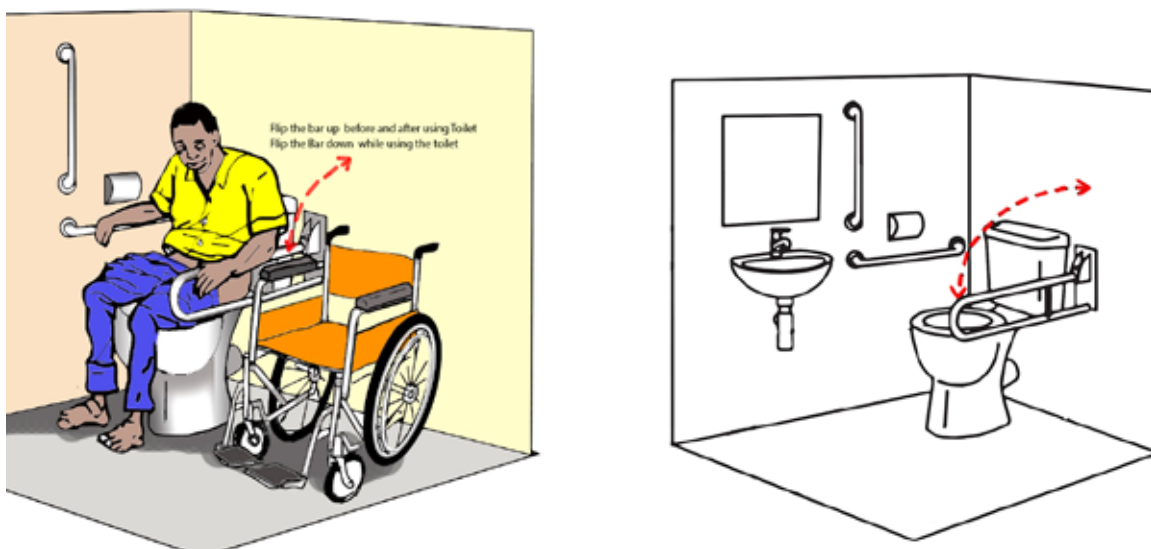
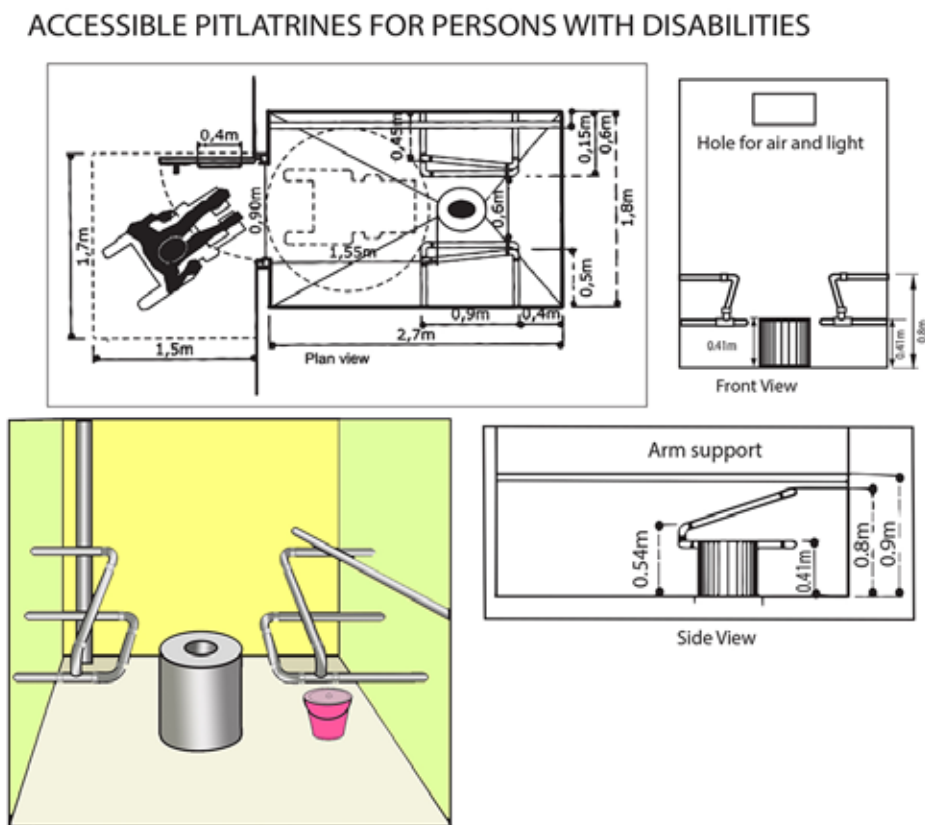


Illustration 20. Measurements for Accessible Pit Latrines for PWDS



## 7.2 Hygiene practices

Personal and family hygiene is important for the prevention and control of sanitation and hygiene-related diseases. Communities need to keep their bodies and surroundings clean. They should also construct and use hygiene facilities like tippy-taps for washing hands and face.

1. Hand washing, 2. Face washing, 3. Menstrual hygiene.

Gathering available information on current personal and family hygiene, knowledge, and practices is very useful for successful intervention. Emphasis should be put on households, public places (markets, butcheries, restaurants, hotels, car parks, and recreation centers) and institutions (schools, health facilities, barracks).

### 7.2.1 Hand washing

Rationale: Environmental surfaces, especially those that are touched frequently (e.g., bed rails, door knobs, lavatory surfaces) may be important reservoirs of microbial contamination.

Microbial agents can then be transferred to the nose, mouth, eyes, or other environmental surfaces. It is important for communities to construct and use hand washing facilities with soap/detergents for hand washing at critical times: after visiting the latrine, after cleaning a baby's bottom, after cleaning an infected area, before and after eating, and before preparing food.

Simple observations of hygiene practices in the home may be in selected areas. See illustration 21. Emphasis should be on the—

- availability of hand and face washing facilities
- availability of water, soap/detergent
- use of hand and face washing facilities.

## Illustration 21: Hand washing with clean water and soap for hygiene improvement

Hand and Face washing facility at homestead

Hand and Face washing facility at Institution



### Hand washing with water and soap/ash. Adhering to the critical times of hand washing

(Refer to Annex: 1)

- Wet your hands under running water.
- Lather the soap on your hands for at least 10 to 15 seconds and then rub your hands together vigorously.
- Wash your palms, in between your fingers, under your fingernails, and the back of your hand; focus on the tips of your fingers.
- Rinse your hands thoroughly under running water.
- Dry your hands with a clean towel or paper towel from a receptacle.
- Turn off the water using the towel. This will help avoid re-infection.

## 7.2.2 Facial cleanliness

Illustration 22. Face Washing



Facial cleanliness is important in preventing hygiene-related diseases, such as trachoma—a disease of the eyes caused by trachoma bacteria—and carried by flies when they land on a dirty face. Open defecation attracts flies to faeces. Then, the trachoma bacteria are carried by the flies to dirty or smelly things, including children's dirty faces. See illustration 22.

### When should one wash the face?

Everyone should wash their face with clean water and soap in the morning when they wake up and

again in the evening. Children should wash their face every time they are dirty, especially when they have eye or nasal discharges. Keeping a child's face clean helps keep away the flies, which can carry trachoma bacteria into the eye.

### How to wash the Face Properly

Everyone should be taught how to wash their face properly. Regular face washing with clean water and soap will help prevent trachoma in areas where it is prevalent; and will help prevent red eye and itchy eyes, which are common in some districts of Uganda.



## Seven Steps for Proper Face washing

- Use clean safe water and soap to wash hands, as described above.
- Wet the whole face from the forehead to the chin with clean water.
- Rub soap in your hands and spread it on the face. Keep soap away from the eyes.
- Carefully rinse off the soap.
- As you rinse off, clean the corners of the eyes to remove morning dried tears and dirt.
- Wet the ear lobes, wash the front and back of ear lobes with soap and rinse. Do NOT poke sticks and cotton buds in the ear. Stop where the little finger stops.
- Allow face to dry with air.

People should be supported through communication to appreciate that facial cleanliness, especially for children, helps prevent diseases.

### 7.2.3 Menstrual Hygiene

Menstruation is a normal biological process and a key sign of reproductive health; yet, in many cultures, it is treated as something negative, shameful, or dirty. The continued silence around menstruation, combined with limited access to information at home and in schools, results in millions of women and girls having very little knowledge about what is happening to their bodies when they menstruate and how to deal with it.

Menstrual hygiene management has been defined as “Women and adolescent girls using a clean menstrual management material to absorb or collect blood that can be changed in privacy as often as necessary for the duration of the menstruation period, using soap and water for washing the body as required, and having access to facilities to dispose of used menstrual management materials” (UNICEF and WHO 2014). However, menstrual hygiene is not just about managing the menstrual period, but also the need to address societal beliefs and taboos surrounding the issue. Many girls and women face challenges with managing their periods safely.

In addition to persisting taboos, women and girls’ capacity to manage their periods is affected by many other factors, including limited access to affordable and hygienic sanitary materials and disposal options; which leaves many to manage their periods in ineffective, uncomfortable, and unhygienic ways. In some contexts, natural materials such as mud, leaves, dung, or animal skins are used to manage the menstrual flow (UNESCO 2013). These problems are exacerbated by insufficient access to safe and private toilets and the lack of clean water and soap for personal hygiene. As a result, menstruating girls and women often feel ashamed and embarrassed.

Facing long-standing social stigmas attached to menstruating bodies, many become isolated from family, friends, and their communities. Often, they miss school and productive work days and fall behind their male counterparts.

Menstrual hygiene requires access to—

- accurate and pragmatic information
- menstrual hygiene materials
- facilities that provide privacy
- water and soap in a place that provides an adequate level of privacy
- disposal facilities for used menstrual materials.

References

**UNESCO Annual Report 2013**

## 7.3 Solid Waste

Solid waste refers to the variety of garbage arising from animal and human activities that are discarded as unwanted and useless. Solid waste is generated from industrial, residential, and commercial activities, and it may be handled in a variety of ways.

Waste can be categorized based on materials, such as plastic, paper, glass, metal, and organic waste. Categories may also include hazard potential, including radioactive, flammable, infectious, toxic, or non-toxic. Categories may also pertain to the origin of waste, such as industrial, domestic, commercial, institutional, or construction and demolition. See illustration 23.

Regardless of the origin, content, or hazard potential, solid waste must be managed systematically to ensure environmental best practices. As solid waste management is a critical part of environmental hygiene, it needs to be incorporated into environmental planning.

### Solid Waste Management

It is a process through which wastes produced are stored, collected, transported and finally disposed.

#### Stages of refuse handling:

There are four stages of refuse handling:

- Storage
- Collection
- Transportation
- Final disposal

### Methods of solid waste management

#### Rural areas

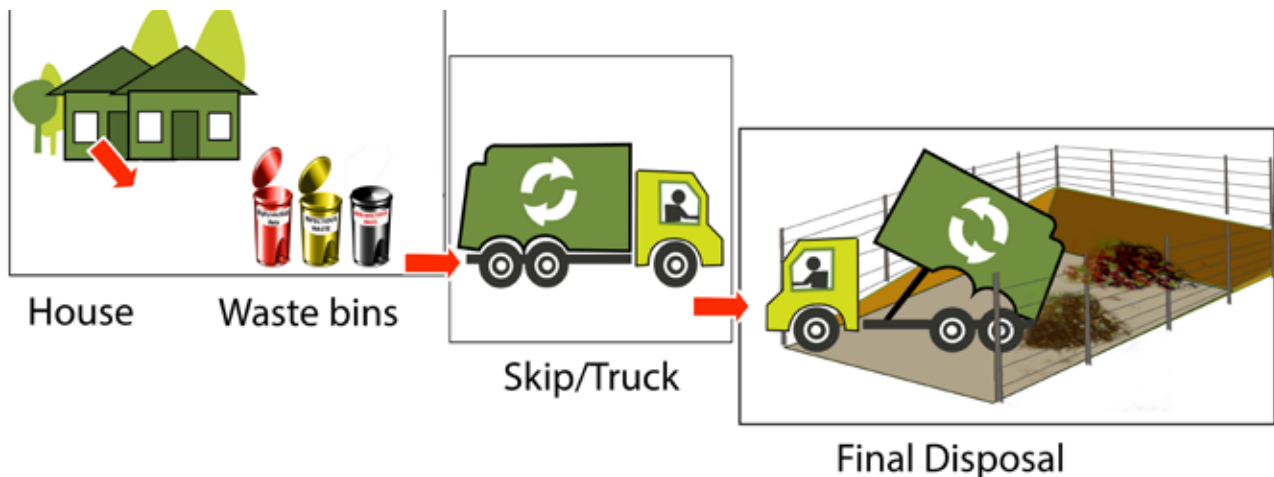
In the rural communities, solid waste is dumped in manure pits. Sometimes it is burnt or buried. Especially banana leaves, peelings, maize stalks, polythene bags (buvveera). However, the recommended methods are:

- Composting in manure pits
- Mulching in gardens
- Burning the materials that cannot rot
- Burying in localized spots especially for polythene bags

#### Urban and peri-urban

In urban and peri-urban areas refuse is stored in refuse bins, ash pits and skips before it is transported by refuse vehicles to the final disposal sites. In peri urban areas refuse pits may be applicable. Current practice encourages recycling of wastes at industrial and domestic levels. All methods of solid waste management processes should not degrade the environment.

illustration 23: Stages in solid waste management



### i) Segregation

Waste must be separated at source. Containers must be within 5metres.

**Clinical (infectious):** Soiled dressings, body fluids, amputated limbs, iv needles and syringes, drainage bags pathology waste, blood products, laboratory waste

**Non-Clinical:** Office, kitchen

**Colour coding:** Yellow – Clinical, Red – highly infectious; Containers to be 15-40L

Black – Non-Infectious , Containers 20-60l Sharps must be placed in a sharps container. All high risk waste must be clearly labeled.

Figure 24: Health care Waste Containers



### Clinical and non-clinical waste segregation

Solid waste management practices can differ for residential and industrial producers, for urban and rural areas, and for developed and developing nations. The administration of non-hazardous waste in metropolitan areas is the job of the local government authorities. On the other hand, the management of hazardous waste materials is typically the responsibility of the person generating the waste; subject to local, national, and even international authorities.

### Storage

Onsite handling, storage, and processing are done at the point of waste generation, which facilitates easier collection.

For example, waste bins are placed at the sites that generate sufficient waste.

### Collection

**Waste collection**, a crucial phase of waste management, includes activities, such as placing

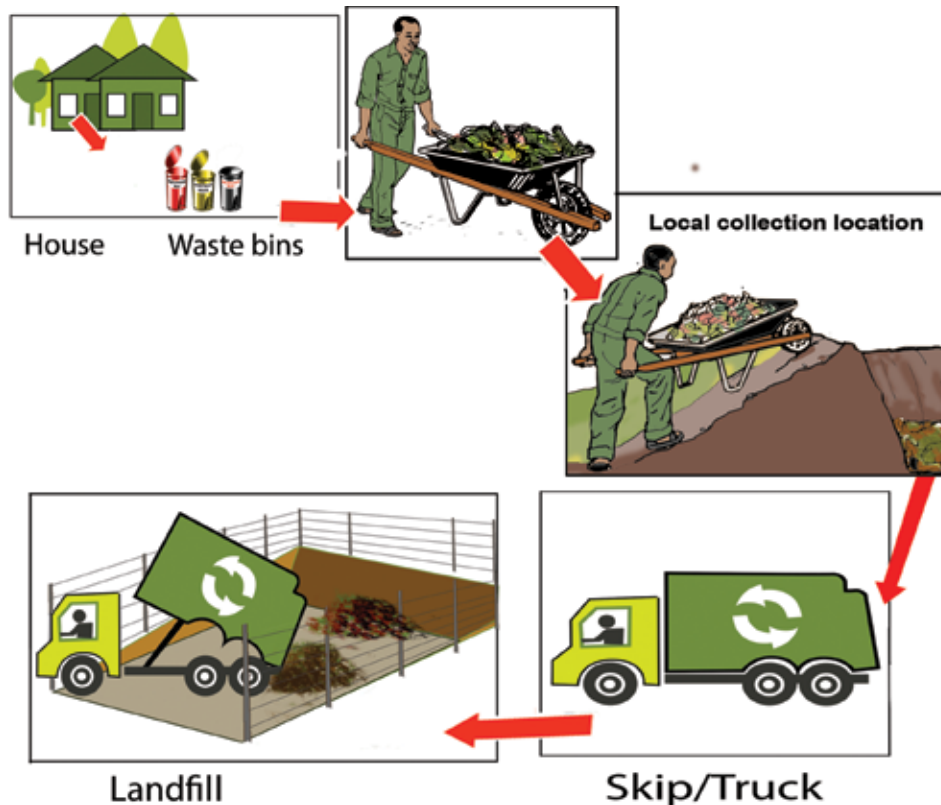


waste collection bins, collecting waste from those bins, and accumulating trash in the location where the collection vehicles are emptied. Although the collection phase involves transportation, this is typically not the main stage of waste transportation. See illustration 25.

## Transportation

Waste transfer and transport are the activities involved in moving waste from the local waste collection locations to the regional waste disposal site in large waste transport vehicles.

**Illustration 25: Waste management process**



## Waste recovery

Waste processing and recovery refers to the facilities, equipment, and techniques employed both to recover reusable or recyclable materials from the waste stream and to improve the effectiveness of other functional elements of waste management.

## Disposal

This includes the activities aimed at the systematic disposal of waste materials in locations, such as landfills or waste-to-energy facilities

- landfills
- waste pit
- sharps pit.

## Location:

The disposal site should be at least 30m from the ground water source. It must be fenced off. The hand washing facility should be close by. Everyone handling infective waste must wear gloves, aprons, and goggles, if needed. The workers must be trained in Integrated Food Security Phase Classification.

## Land fills

A landfill site—also called a tip, dump, rubbish dump, garbage dump, or dumping ground—is, historically, a site for the disposal of waste materials by burial. It is the oldest form of waste treatment. Landfills have been the most common method of organized waste disposal and it remains so in many places around the world.

Some landfills are also used for waste management purposes, such as the temporary storage, consolidation, and transfer, or processing of waste material (sorting, treatment, or recycling)

Typically, operators of well-run landfills for non-hazardous waste meet predefined specifications by applying techniques to—

- confine waste to as small an area as possible
- compact waste to reduce volume
- cover waste (usually daily) with layers of soil or other types of material, such as woodchips and fine particles.

During landfill operations, a scale or weighbridge may weigh waste collection vehicles on arrival, and personnel may inspect loads for wastes that do not meet the landfill's waste-acceptance criteria. Afterward, the waste collection vehicles use the existing road network on their way to the tipping face or working front, where they unload their contents. After loads are deposited, compactors or bulldozers can spread and compact the waste on the working face. Before leaving the landfill boundaries, the waste collection vehicles may pass through a wheel-cleaning facility. If necessary, they return to the weighbridge for re-weighing, without their load. The weighing process can assemble statistics on the daily incoming waste tonnage, which databases can retain for recordkeeping. In addition to trucks, some landfills may have equipment to handle railroad containers. The use of "rail-haul" permits landfills to be located at more remote sites, without the problems associated with many truck trips.

Typically, in the working face, the compacted waste is covered with soil, or alternative materials, daily. Alternative waste-cover materials include chipped wood or other "green waste," several sprayed-on foam products, chemically "fixed" bio-solids, and temporary blankets. Blankets can be lifted into place at night and then removed the following day prior to waste placement. The space that is occupied daily by the compacted waste and the cover material is called a daily cell. Waste compaction is critical to extending the life of the landfill. Factors, such as waste compressibility, waste-layer thickness, and the number of passes of the compactor over the waste affect the waste density.

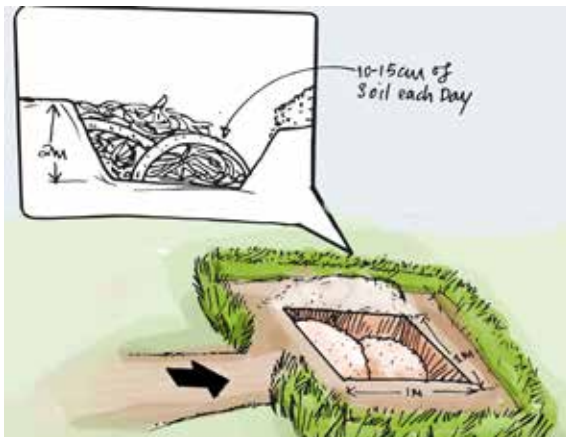
## Incineration

Incineration is a method in which non-biodegradable wastes are subjected to combustion so as to convert them into residue and gaseous products. This process reduces the volumes of solid waste to 20 to 30 percent of the original volume. Incineration and other high temperature waste treatment systems are sometimes described as "thermal treatment". Incinerators convert waste materials into heat, gas, steam, and ash.

Illustration 26: Types of incinerators



Illustration 27: waste pit



### Waste Pits

Dig a pit 1 meter (3 feet) square and 2 meters (6 feet) deep. The bottom of the pit should be 2 meters (6 feet) above the water table. Cover waste in the pit with 10–15cm (4–6 inches) of soil each day. The final layer of soil should be about 2 feet; this will prevent odors and insects and keep animals from digging up the buried waste. This size of pit should last 30 to 60 days. See illustration 27.

Figure 28: Sample sharp pits and Bins



### Sharps pits

Wear heavy-duty utility gloves. Cap, plug, or tape sharps container when it is  $\frac{3}{4}$  full. Dispose of the sharps container by burning, encapsulating, and/or burying. Remove utility gloves (wash daily or when visibly soiled, then dry). Wash hands or perform antiseptic hand rub.

Build a fence around the site. Line the pit with a material of low permeability (e.g., clay), if available. The pit should be at least 50 meters (55 feet) away from any water source and located downhill from any wells. It must be free of standing water and in

an area that does not flood. Do not bury large quantities (over 1 kilogram) of chemical (liquid) wastes at the same time; spread the burial over several days.

Safe pits are practical for only limited periods of time (1–2 years). They are useful for relatively small quantities of waste. See illustration 28.

## 7.4 Liquid waste

Liquid waste, often but not necessarily containing water, is called wastewater

Municipalities (houses, businesses, institutions): from sinks, tubs, showers, toilets

Agricultural activities: rainfall and irrigation runoff from farms contains fertilizer, pesticides, manure, and soil; runoff from ranches and feedlots contains nutrients, organic matter, bacteria, growth hormones, and drugs

Industry: Industrial wastewater may contain petroleum products, metals, acids and other chemicals, nutrients, and sediment

### Rural

In rural areas wastewater from bath places and wash places for utensils should be properly disposed of in well-constructed soak away pits (10 feet deep, filled with stones and properly covered)

### Urban and Peri urban

In urban areas wastewater can be discharged in well-constructed soak away pits which should be at least 10ft (3m) from buildings. Industrial effluents should be stabilized appropriately. However where there exists a sewerage system wastewater and stabilized effluents can be discharged in to the system for final disposal.

### Best practices:

- Maintenance of storage facilities(washing, covering, protecting from damage by external forces)
- Proper storage transportation and disposal

### Effects of poor liquid waste management

- Encourages the breeding and multiplication disease vectors such as flies, mosquitoes, rats etc which spread diseases like typhoid, dysentery, cholera, other diarrhoeal and malaria etc.
- Causes unsightly and cause bad smells.
- Degradation of the environment
- Causes injuries to human being
- Contaminates the environment in which aquatic and plant life live.

### Soak away pit

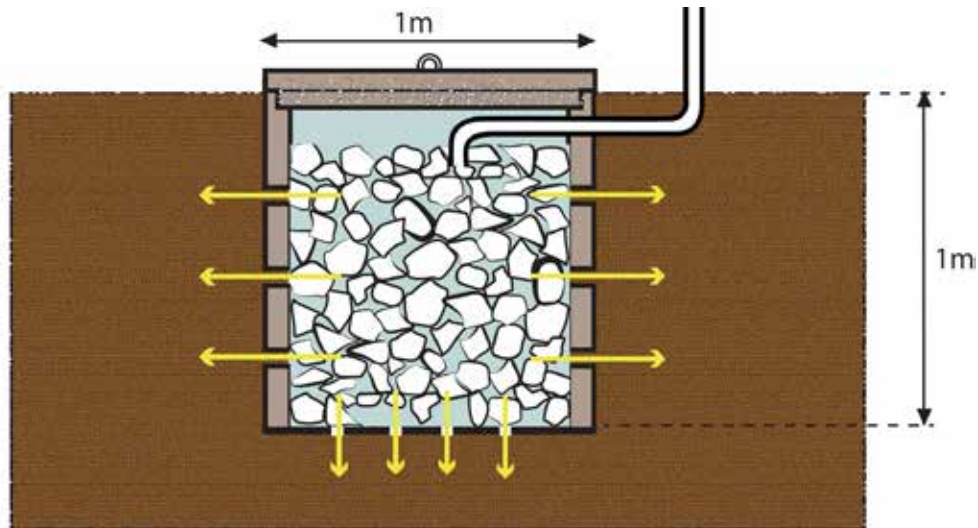
If there is no intention or need to reuse wastewater, collected storm water, or grey water, soak away pits can offer a cost-efficient opportunity for a partial treatment of wastewater, grey water, or storm water from a primary treatment (e.g., septic tank, twin-pits for pour-flush toilets, biogas settler, anaerobic baffled reactor, etc.) and a relatively safe way of discharging it to the environment and recharging groundwater bodies. As wastewater (grey water or black water after primary treatment) percolates through the soil from the soak away pit, small particles are filtered out by the soil matrix and organics are digested by microorganisms. The wastewater effluent is absorbed by soil particles and moves both horizontally and vertically through the soil pores. Sub-soil layers should, therefore, be water permeable to avoid fast saturation. Avoid high daily volumes of discharged effluents. Thus, soak away pits are best suited for soil with good absorptive properties; clay, hard packed, or rocky soil is not appropriate. Soak away pits are



used the same way as leach fields, but they require less space, as well as less operation and maintenance. But, they generally can also receive less influent and the groundwater pollution may be higher than with leach fields.

A soak away pit, also known as a soak-away or leach pit, is a covered, porous-walled chamber that allows water to slowly soak into the ground. Pre-settled effluent from a collection and storage/treatment or (semi-) centralized treatment technology is discharged to the underground chamber, from which it infiltrates into the surrounding soil. Inputs include effluent, grey water, urine, anal cleansing water, stored urine; and outputs include stored urine, anal cleansing water. See illustration 29.

**Illustration 29. Technical Drawing of a Soak Away Pit**



## Urinals

A urinal is a sanitary plumbing fixture for urination only, predominantly used by males. It can take the form of a container or simply a wall, with drainage and automatic or manual flushing, or without flush water as is the case for waterless urinals.

**Illustration 30: Urinals**



The different types of urinals, for single users or as trough designs for multiple users, are often intended to be used from a standing position (rather than squatting or sitting), but other designs are intended to be used with other postures. The term may also apply to a small building or other structure containing such fixtures. It can also refer to a small container in which urine can be collected for medical analysis, or for use where access to toilet facilities is not possible, such as in small aircraft, during extended stakeouts, or for the bedridden.

While urinals are generally intended for use by males, it is also possible for females to use them. Designers of urinals for women have adopted various approaches: some intending the user to “hover” over the unit, facing away from it; others intend the user to stand facing the urinal, with or without a female urination device.

## 7.5 Safe water chain

The safe water chain is the process of keeping water safe from the point of collection through to consumption. See illustration 36. Often water quality tests show that water, which was of good quality at the source, becomes dirty during collection and storage and is often of poor quality by the time it is consumed. The following section provides options for keeping water safe and clean.

### Illustration 31. Water Kept in a Clean Pot with a Cover



#### a. Safe water handling

Water sources are safe when all the following criteria are met:

- The water is fully enclosed or protected (capped).
- People and animals do not step into the water when collecting it.
- Water from the surface cannot drain into it.
- The nearest latrine is more than 10 meters away and is not on higher ground; the nearest solid waste pit, animal excreta, or other pollution source is more than 10 meters away.
- No stagnant water is within 2 meters of the water source.
- The collection buckets are clean and kept off the ground.

#### b. Safe collection

Do not place items entering the water on the ground. Water containers that are dipped into water sources should be thoroughly clean. Where water is scooped by hand out of a pond or well, a clean scoop can be used to transfer the water into a carrying container. See illustration 32.

To discourage people from entering a pond when collecting water, platform steps or ramps can be built to bring people close enough to the water for them to bend down and fill their containers. However, dirt deposited on these structures can enter the pond, especially when it rains. If the pond level varies considerably, people can draw the water with a bucket and rope. Bank-mounted pumps can be used to supply water to people away from the pond, but these may be difficult to maintain. Where a rope and bucket are used to draw water, the bucket and rope should be kept off the ground; one way is to use a hook inside the water well.

### Illustration 32: Protected well



#### c. Safe transportation

A carrying container should be clean, especially on the inside. The inside of clay pots can be cleaned with ash and leaves. Put a little clean sand in the jerrycan with some water, shake it for a few minutes, and the inside of the jerrycan will be clean. Do this each week.

When carrying water in a pot or basin, use clean balancers to keep the water from spilling. These can be the clean scoops used to collect the water from the source. They can also be leaves washed in clean water. See illustration 33 and 34.

**Illustration 33: Carrying water safely from the well.**



**Illustration 34: Cleaning pot to ensure water is safe**





#### d. Safe storage and handling

Clean the inside of all drinking water storage containers every week.

If these are clay jars, wash them with ash and leaves or with soap and cloth. Cover the top of the water container to stop dust and other things from falling into the drinking water. Also, pour water from the container, but don't allow fingers to touch the water. Make sure that the scoops used to take water out of the storage container are clean. Never place them on the floor. Keep them on the lid of the water storage jar.

#### e. Domestic water treatment

Various methods of household water treatment are available: boiling, chlorinating, storing in improved vessels, solar disinfecting with ultra-violet light plus heat, ultra-violet disinfection with lamps, and chemical coagulation—filtration plus chlorine disinfection.

If you are worried about the quality of your drinking water, use simple treatment measures to purify the water

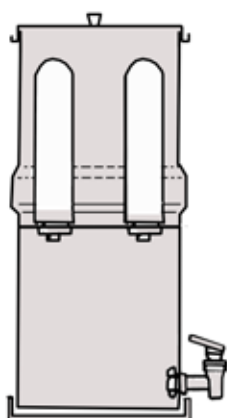
**a) Settling:** If water is muddy, leave the water to settle overnight and this may clear the water at the top of the jar. Pour the clear water at the top of the jar into a clean container. If the water is still cloudy, leave it to settle for an additional 24 hours. Then, pour off the top portion of the liquid into another clean container for use (this is sometimes called the three-pot system).

Adding certain chemicals or plant seeds can help this settling process. Some options are—

- Place a small lump of “white rock” (aluminum sulfate) in the water container.
- Sprinkle a pinch of powder made from the ground seeds of the trees *Moringa oleifera* and *Moringa stenopetala* on the surface of the water.

**b) Canvas filters:** The simplest type of filter is a canvas bag. See illustration 35. Fill the bag with water, and collect the water as it runs out of the bag. This will remove some (but not all) pathogens, and will make the water clearer. Bags are available that have been specially treated to prevent them from rotting.

**Illustration 35: A canvas filter**



**c) Candle filters :** The candle filter is a porous porcelain hollow “candle” cartridge. The very small pore sizes of these materials do not allow large things to pass through. They do not filter out all pathogens from the water. Clean and boil the ceramic candle at least once a week, even if it is not clogged. If it is clogged, scrub it under running water with a stiff brush free from soap, grease, or oil. If the ceramic candle is cracked, the water may pass through without being filtered. Boiled water passed through the filter may have more pathogens in it than before, so it is better to filter water before boiling.

**d) Sunlight:** A good, low-cost way to purify water is to put it in a clear plastic bag or a clear bottle and leave it in the direct sunlight for a few hours. See illustration 36. This will kill most pathogens in the water.

**Purifying water by direct sunlight**

### Illustration 36. Purifying Water by Direct Sunlight



**e) Boiling:** Bringing any water to the boil will destroy harmful pathogens in that water and make it safe to drink. This is expensive on fuel to boil the water (roughly 1 kg wood per litre of water), requires heating pots and boiled water storage jars and also takes time. The water that has been boiled tastes “flat”, but if you leave it for a few hours in a partly filled, covered container, it will absorb air and lose its flat taste. It is effective method of water treatment. However, it may not be practical when fuel is scarce its good at household level and for when disinfection by chlorination is not possible.

### Illustration 37. Boiling Water for Drinking



**f) Chlorination:** Water can be treated using chlorine-releasing agents tablets or powders. It's a very effective method and can provide safe water for a large population. Make a stock solution (1 percent by weight chlorine solution) by mixing 15 grams (tablespoon) of HTH chlorine (calcium hypochlorite 70 percent) or 250 milliliters of sodium hypochlorite 5 percent (also called JIK) in 1 litre. Store the stock solution in a cool place.

- Cover the container and keep it away from light. Add the stock solution to the water to make it safe.

The amount of water which can be made safe and required volume of stock solution are shown in the table below.

Amount of water made safe	Volume of stock solution required
1 litre	3drops
10 litres	6mls
100 litres	60 mls

Allow the resultant water to stand for 30 minutes before using it. The residue chlorine in this water should be between 0.2–0.5 milligrams/litres.

**Note:** If water is turbid, filter it before chlorination or boil it vigorously instead of using chlorination.

## 7.6 Food hygiene and safety

Food can become contaminated at any point during harvesting, slaughtering, processing, storage, distribution, transportation, and/or preparation.

Food contamination puts a lot of people at risk; however, it can be prevented by knowing about proper food handling.

Food has been implicated in several sanitation- and hygiene-related diseases outbreak as a vehicle for transmission. Pay special attention to food safety at the household level, social gatherings, street and roadside vending, evening markets, market places, parties, funerals, meetings, etc.

These guidelines will focus largely on the post-production phase, with emphasis on the five ways to prevent food contamination as ways to ensure food safety.

### Keep clean.

Besides ensuring the cleanliness of the food, it is also important to make sure that personal hygiene is considered. Food handlers must wash their hands and face with soap and adequate water before, during, and after preparing meals.

It is also important to properly sanitize all surfaces and equipment used for food preparation. This prevents any dangerous microorganisms from contaminating the materials.

### Separate raw and cooked food.

It is important to separate raw food—such as meat, poultry, and seafood—from cooked food. Raw food usually contains harmful microorganisms that may be transferred to other food during preparation and even when stored. To prevent cross-contamination, food utensils used in handling raw food should be sanitized after every use.

### Proper cooking

Proper cooking is one way of “killing” all possible harmful microorganisms in raw food. To eliminate the dangerous components, it is important to maintain a temperature of 70°C or more than 2 minutes in the middle of thickest part to ensure that cooked food is safe for consumption.

### Keep food at safe temperatures

The safest way to store food is at temperatures below 5°C and above 60°C. This eliminates microorganism that can reproduce and spread quickly at room temperature. It is also important to serve food as soon as it is hot (or above 60°C) to ensure that it is free of harmful microorganisms.

It is very important to ensure that safe water is used in food preparation and that raw materials are separated when either cooking or consuming food. This will prevent harmful microorganisms and chemicals from getting into the food. For preserved foods, always check the expiry date before consuming to prevent health risks.

## Pillars of food hygiene and safety

### i. Food handlers

The personnel who directly or indirectly handle and/or prepare food should be hygienic in body and clothing and medically fit/certified. The district or urban authorities should periodically (after every three months) issue the certificate of medical fitness.

The food handlers must always practice good hygiene practices while handling, preparing, and serving foods at households and in public places. Good hygiene practices include washing hands/face with soap and water before and at critical points during food preparation. Special attention or efforts will be required to promote good hygiene practices and habits in eating places, especially transit stopovers, canteens, informal settlements, landing, refugee settlements, etc.

### ii. Food Premises and Surroundings

The place where food is handled, prepared, stored, or served plays a critical role in the level of food hygiene and safety. The premises must be sound, safe, adequately ventilated, and lighted; and kept clean and hygienic at all times.

The following sanitation and hygiene facilities will promote food hygiene and safety:

- food storage/store for raw and cooked foods
- sanitary facilities (toilets and bathrooms)
- solid and liquid waste management
- safe and adequate water supply
- free from live animals
- provision of a cloak room
- availability and use of a drying rack for utensils.

### iii. The Consumers

The consumer plays a central role in promoting and maintaining food hygiene and safety. After the public is well informed, and they can change and practice and behave well regarding food hygiene, this will have ripple effect/benefit and others will demand quality food services, in addition to practicing it themselves.

Appropriate social behaviour change communication interventions are, therefore, important in effective public education for meaningful food hygiene and safety at all levels

### iv. Sanitary inspection in food and drink establishments

Hotels, restaurants, super markets, and food kiosks are also covered by hygiene regulations and they must be inspected regularly for certification.

# Behaviour Change Communication

This section introduces the important role behaviour change communication (BCC) plays in promoting good sanitation and hygiene practices. The content includes a brief guide on how to integrate BCC into sanitation and hygiene programs at the national and district levels.

## 8.1 Importance of BCC in sanitation and hygiene

The relevancy of BCC in sanitation and hygiene programs can be traced from the fact that most of the sanitation- and hygiene-related diseases are linked to the behaviours and practices of individuals and communities.

To improve sanitation- and hygiene-related health indicators, focus should be placed at enhancing people's capacity to adopt practices that prevent health risks. People should understand the risks, appreciate the benefits for change, as well as be empower them to adopt and sustain the recommended sanitation and hygiene practices.

Uganda has, over many years, implemented communication interventions to address environmental health issues. However, the focus of such interventions has been to increase public awareness, which has been greatly biased to information giving. As a result, these interventions have not translated into the adoption of practices that prevent and control the sanitation- and hygiene-related diseases.

It should be noted that some issues cannot be resolved through communication alone, yet they play a major role in influencing the desired behaviours. These include limited access to safe water in many communities in Uganda, as well as land texture that does not allow for effective construction of latrines in wetlands and other regions of Uganda.

Communication efforts should, therefore, be well coordinated to bring on board those partners who are implementing programs to address the non-communication barriers in those communities.

Bearing that in mind, maximum communication efforts should be made to address the behavioural gaps that hinder adoption of the recommended practices.

## 8.2 Key target audiences for improved sanitation and hygiene

- institutional heads (academic and technical)
- local governments
- urban authorities
- community leaders
- household heads
- women/mothers of children
- school children
- fishing communities.

## 8.3 Key behaviours for promoting sanitation and hygiene

- hand washing
- facial cleanliness
- body washing
- latrine use
- reduced contact with contaminated water.

## 8.4 Key communication barriers to the adoption of good sanitation and hygiene practices

There is limited knowledge about the relationship between poor sanitation, hygiene practices, and the risk of related diseases. Communities frequently do not perceive the health risks associated with the sanitation practices.

Traditional beliefs among many communities negatively influence the adoption of good sanitation and hygiene practices. These include the belief that children's faeces are harmless, no one should use the same latrine as the mother-in-law, facial cleanliness for children is not a serious need, open defecation is harmless, lake water cannot be contaminated by open defecation, and others.

Sanitation and hygiene education efforts are not adequately integrated into institutional implementation frameworks.

### 8.4.1 National level

#### Communication research

The government and partners undertake communication research to assess and review the performance of outcome indicators. The government is mandated to conduct regular studies through exercises like the Uganda Demographic Health Surveys, which are conducted every five years, and the Uganda population census every 10 years.

#### Planning

The Environmental Health Division conducts periodic reviews to assess the performance of the communication outcome indicators and, thereafter, disseminate findings to the national- and district-level partners.

The Environmental Health Division is also responsible for developing, updating, and disseminating the National Communication Strategy for Environmental Health, which should provide guidance around the design and implementation of communication interventions at the national and district levels.

#### Technical capacity building

The Environmental Health Division provides technical support to strengthen communication capacities through trainings for national and district implementers. The department is also mandated to provide tools and communication materials for implementing sanitation, and hygiene interventions. The division conducts field technical support for sanitation and hygiene communication interventions by national and district implementers.

#### Coordination

The Environmental Health Division is mandated to establish and update regular, effective mechanisms for coordinating sanitation and hygiene communication programs, in partnership with the Health Promotion and Education Division of the Ministry of Health.

#### Inter sectoral collaboration

The division is also responsible for strengthening inter-sectoral collaboration with line ministries to integrate the sanitation and hygiene communications in their programs.

## Financing

The division mobilizes and allocates financial and related resources for implementing the communication responses to improve sanitation and hygiene practices. Such initiatives include raising funds, budgeting, and making allocations.

## Monitoring

The Environmental Health Division develops and oversees implementation of the framework for monitoring communication interventions on sanitation and hygiene by the national and district implementers.

### 8.4.2 BCC Roles and Responsibilities at the District Level

## Planning

The heads of environmental health are responsible for integrating sanitation and hygiene communication into the overall district health work plan. The districts health office should develop the district communication strategy and ensure that sanitation and hygiene issues are adequately addressed.

## Implementation

The Head of Environmental Health should actively participate in implementing the sanitation and hygiene communication strategy. Efforts should be made at this level to ensure that communication interventions by local government and district partners are informed by the sanitation and hygiene communication strategy, as well as data from disease surveillance reports. It is a responsibility of the district health inspectors and health assistants to orient community-level implementers, including VHTS on the implementation of BCC activities for improving sanitation and hygiene practices. The VHTs should be supported to conduct home visits and community education outreaches on key sanitation and hygiene issues.

## Field support supervision

The districts are also responsible for providing communication technical support to government and nongovernmental partners to ensure that sanitation and hygiene communication issues are adequately addressed.

## Capacity building

To support the adoption of recommended practices by communities, districts are responsible for conducting BCC trainings for sanitation and hygiene implementing partners. In addition, districts should disseminate the environmental health communication strategy to implementing partners. They should develop and disseminate BCC materials and tools for implementers.

## Coordination

Districts should coordinate environmental health communication initiatives to ensure uniformity, quality, and standardization of communication messages and materials. This can be achieved through regular quarterly BCC coordination meetings and, where possible, revitalization of BCC working groups at the district level.



### **Inter sectoral collaboration**

The Environmental Health Division is responsible for strengthening collaboration implementing partners in other departments, NGOs, and community-based organizations operating in the districts to address sanitation and hygiene issues. These may include water, sanitation, and hygiene (WASH) partners, National Water and Sewerage Company, education institutions, among others. This is useful in resource mobilization, coordination of interventions, harmonization of communication messages, and maximizing synergy for impacting on the communication outcome indicators.

### **8.4.3 Community-Level Interventions**

#### **Community-level interventions**

At the community level, implementers include VHTS/CHEWS, health assistants/NGOs, and community-based organizations. Their tasks shall include, but not limited to the following:

- conduct home visits for sanitation and hygiene communication
- community mobilization activities
- community dialogue meetings
- collect data and conduct follow up.

## Monitoring and Evaluation of Sanitation and Hygiene Interventions

This chapter provides a logical approach for monitoring and evaluation (M&E) of sanitation and hygiene interventions. It describes various approaches and interventions which can be implemented to monitor and evaluate the interventions.

It highlights the overall goals and specific objectives and variables that will guide stakeholders as they focus their resources objectively.

The process for monitoring and evaluating these guidelines will majorly anchor on the HSDP monitoring framework. This will take care of routine performance monitoring, quarterly reviews, annual reviews and evaluation of current and proposed indicators and their targets. The monitoring and evaluation process will measure the extent to which the strategic objectives of this plan and aspects of Environmental Health in the HSDP.

The process will involve different stakeholders using a national platform that uses the districts as the basic units of assessment; based on continuous monitoring of different levels of indicators. The process will also gather additional data before, during, and after the period to be assessed by multiple methods. Several analytical techniques will be employed to deal with various data gaps and biases for better interim and summative evaluation analyses. Information at each level will be provided from the planning entities below it. Management support on the other hand as well as governance and partnership information will be analyzed at that level it is provided.

### 9.4 Indicators for Monitoring the National Sanitation Policy

Indicator	Data Source	Frequency of Collection
9.4.1 Outcome Indicators		
Universal and equitable access to safe and affordable drinking water		
Percentage of population in households accessing safe drinking water	Household surveys	Annually–UBOS household surveys Every five years: UDHS Every 10 years: census
Percentage of learners in primary school that have access to safe drinking water	Primary schools	Periodic school surveys
Access to adequate and equitable sanitation and end open defecation		

Indicator	Data Source	Frequency of Collection
Percentage of population (households) using an improved sanitation facility	Households surveys	Annually–UBOS household surveys  Every five years: UDHS  Every 10 years: census
Percentage of the population that is open defecation free  <b>OR</b> Percentage of villages declared open defecation free	Household surveys	Annually–UBOS Household surveys  Every five years: UDHS
Percentage of learners enrolled in schools that provide improved sanitation facilities	Education management information system (EMIS)	Annual school reports
Percentage of institutions that provide separate sanitation facilities for females, for males, and for persons with disabilities	EMIS	Annual school reports
Percentage of institutions, refugee camps, and urban informal settlements that have a population stance ratio of 40:1	EMIS  Institutional surveys	Annually for primary schools  Periodic surveys for other institutions and communities
Percentage of population with hand washing facilities with soap and water at home	Household surveys	Annually –UBOS HH surveys  Every five years-UDHS
Percentage of population who wash their hands with soap and water after defaecation	Household surveys	Annually –UBOS HH surveys  Every five years-UDHS
Percentage of the population in trachoma endemic areas who wash their face twice a day	Household surveys	Periodic surveys by MOH

Indicator	Data Source	Frequency of Collection
Percentage of learners enrolled in primary schools with basic hand washing with adequate water and soap <b>OR</b> Percentage of primary schools that have basic hand washing facilities with adequate water and soap	EMIS	Annually
Percentage of learners enrolled in primary and secondary schools with adequate and appropriate sanitary facilities for washing and change management and disposal of menstrual waste. <b>OR</b> Percentage of primary and secondary schools with adequate and appropriate sanitary facilities for washing and change management and disposal of menstrual waste	EMIS	Annually
Percentage of learners enrolled in primary schools who wash their face twice a day	School surveys	Annual
Waste water management Reducing pollution, eliminating dumping, and minimizing the release of hazardous chemicals and materials		
Percentage of households that safely dispose of waste water	Households	UDHS
Percentage of large scale industries that safely dispose of waste water	Factories	Periodic NEMA surveys
9.4.2 Process Indicators		
Safe Handling of Food		
Percentage of towns and municipalities that certify public eating places, butcheries, and education institutions biannually	Health Inspectors reports	Annual
Percentage of villages triggered.	Households	Periodic surveys
Percentage of population reached with Sanitation messages	Households	Periodic surveys
Functional National Sanitation working Group		

Indicator	Data Source	Frequency of Collection
Percentage of districts with functional district Water and Sanitation coordination committees		

## 9.5 Sanitation and hygiene monitoring and evaluation activities

Monitoring of implemented activities is required to occur at various levels including national, district, sub district and community levels. To maximize impact, monitoring should be a joint effort of partners at each of these levels. Monitoring and evaluation of sanitation and hygiene interventions should be an integral component of the national, district and sub district planning and budgeting processes.

### 9.5.1 National level activities

National level monitoring and evaluation activities may include but not limited to the following:

- Joint partner technical field support visits.
- Annual partner performance reviews
- National planning and coordination meetings
- Technical working group meetings
- On spot field implementation checks
- Surveys and disease surveillance exercises

### 9.5.2 District level sanitation and hygiene monitoring activities

Depending on time, financial and technical resource availability, these may include but not limited to the following

- District WASH planning and coordination meetings
- Field health inspection exercises
- Partner progress review meetings
- Mini performance studies

### 9.5.3 Community level monitoring of sanitation and hygiene conditions

Health inspection visits of sites and work places e.g markets

Law enforcement progress review meetings on sanitation and hygiene

Home visits

# Annexes

## Annex 1: Hand Washing Guide

Shed squames carry 4 to 10 viable bacteria each. The adult human sheds about 6,000 to 32,000 bacteria per minute. Hand washing is the single most important method of preventing the spread of infectious diseases.

### HOW TO WASH HANDS PROPERLY

Duration of process is 40-60 Sec





■ *Areas of the hands most frequently missed during handwashing*



## Annex 2: Participatory tools

Steps	Activities	Tools
<b>1. Identifying Problems</b>	Identifying health problems Mapping water and sanitation in the community Selecting good/bad hygiene practices	Unserialised Posters Story with a Gap Community Mapping
<b>2. Analysing Problems</b>	Investigating community practices Analysing faecal-oral transmission Selecting barriers to block faecal-oral transmission	Three Pile Sorting Community Mapping Transmission Routes
<b>3. Planning For Solutions</b>	Analysing roles of women and men Choosing sanitation improvements Choosing improved hygiene practices	Blocking the Routes Story with a Gap Gender Role Analysis
<b>4. Selecting Options</b>	Planning who does what	Sanitation Ladder Three Pile Sorting Selecting the Barriers
<b>5. Action Planning</b>	Identifying what might go wrong	Planning Tools Sanitation Ladder
<b>6. MONITORING/ EVALUATION</b>	Checking on progress towards change	Various tools

## Annex 3: Unserialised posters

**Purpose:** Identify important issues and problems facing the community

Build team spirit and group self-esteem

**Time:** 1 hour

**Materials:** 10-15 pictures showing everyday life in the community

**Method:**

1. Divide into groups of 5-8 people and give each group picture set.
2. Ask each group to select 4 pictures and make up a story.
3. Have each group present their story and answer questions.
4. Discuss stories and how they relate to real issues in community.

**Discuss:**

- a. What real problems in your community are raised by the stories ?
- b. What can we do to solve these problems?
- c. What other problems do your community face?

## Annex 4: Story with a gap

### Purpose:

Raise awareness of why poor hygiene and sanitation practices exist

Get agreement on what can be done to change those practices

**Time:** 1 hour

### Materials:

Sets of 'before' (problem) and 'after' (improved situation) pictures:

A) Defecation in bush B) Defecation in pit latrine

### Method:

1. Show A ('bad' picture) and ask - "What do you see?"
2. Show B ('good' picture) and ask - "What do you see?"
3. Ask people to make a story describing what happened between A and B - or discuss the differences between A and B
4. Discuss questions below.

### Discuss:

- a. What is the problem? What are its causes?
- b. What did this village do to solve their problem?
- c. Does your community have similar problems?
- d. What can you do to solve these problems?
- e. What can be done to encourage people to change their practices?

## Annex 5: Community mapping

### **Purpose:**

Help community identify and prioritise W&S-related health problems

### **Materials:**

Natural objects - e.g. sticks, stones, etc

Option - newsprint and markers

### **Method:**

1. Divide into 2 or 3 groups e.g. older men, women, and youth.
2. Make a map of the community on the ground, showing features e.g. boundaries, roads, rivers, houses, farms, school, clinic, etc
3. Then add water and sanitation features - e.g. water points, latrines, waste disposal sites, and areas of poor sanitation
4. Discuss health or sanitation problems e.g. contamination of old sources, water-related diseases, poorly maintained water point.
5. Bring groups together to share their maps. Discuss differences - Why did the men not identify the same problems as the women?

### **Discuss:**

Take one major problem at a time and do problem analysis:

- a. Why is it a problem? What are its effects?
- b. What are the causes?
- c. How have we tried to solve problem?
- d. What difficulties have we faced in trying to solve the problem?

## Annex 6: Three pile sorting

### Purpose:

Clarify what people consider to be 'good' and 'bad' hygiene practices

Identify factors that block people from performing 'good' practices

### Materials:

Sets of about 30 cards showing different types of hygiene behaviour

Cards with words or faces showing 'good', 'bad', and 'in-between'

### Method:

1. Divide into groups and give out sets of cards.
2. Sort cards into three piles - 'GOOD', 'BAD', and 'IN-BETWEEN'

Explain that 'GOOD' means "activities which are good for health".

1. Round robin report back. Ask each group to talk about one card from each pile and then let another group present.
2. Choose 1-2 behaviours that participants agree are good and want people to do on a regular basis. Choose at least two behaviours that are bad, which participants want to discourage.

### Discuss:

- a. 'Bad' cards - Why are these practices 'bad'? How often do we do these practices? What can be done to improve things?
- b. 'Good' cards - Why are these practices 'good'? How often do we do these practices? What prevents us from doing this behaviour?
- c. 'In-between' practices - Why are these practices 'in-between'? What can we do to change these practices to good behaviours?
- d. How can we influence the community to adopt good practices?

How can we influence the community to stop bad practices?

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## Annex 7: Transmission routes

### **Purpose:**

Raise awareness of oral-faecal transmission routes

Raise awareness of hygiene risk behaviours

Time: 1-2 hours

### **Materials:**

Pictures showing situations in which oral-faecal transmission occurs

### **Method:**

1. Show pictures at both ends - person defecating, person's mouth
2. Ask participants to select the other pictures and place them in between to show how faecal matter is spread.
3. Draw arrows between pictures to show how this might happen
4. Discuss: a) transmission routes, b) hygiene risk behaviours
5. Use the F-DIAGRAM below to help explain things.



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## Annex 8: Blocking the routes

**Purpose:**

Raise awareness of how to stop faecal oral transmission routes

**Time:** 1 to 2 hours

**Materials:**

Set of cards

**Method:**

1. Put up 'Transmission Routes' Diagram (made by participants)
2. Add cards to the diagram to show where to stop or block the transmission of faecal matter

**Discuss:**

- a. How can we block routes of transmission and prevent diseases?
- b. How can we improve hygiene practices in home and community?

## Annex 9: Selecting the barriers

### Purpose:

Analyse how effective the barriers are and how easy or difficult they would be to put into place.

Time: 30 minutes to 1 hour

Materials: Barriers Chart

### Method:

1. Take the barriers from the Transmission Routes Diagram and get participants to place them on the Barriers Chart
2. Then discuss how to implement those barriers that have a high/ medium impact and are relatively easy to implement.

### Discuss:

- a. Which barriers would you like to use in the community?
- b. What are the practical issues in putting the barriers into place?

### Barriers

	Easy to Do	In - Between	Hard to Do
High Impact			
Medium Impact			
Low Impact			

## Annex 10: Sanitation ladder

### Purpose:

Decide on options for sanitation improvement and do action planning

Raise awareness of advantages and disadvantages of each option

### Materials:

Pictures showing various methods of excreta disposal -

- Open defecation in bush
- Burying faeces
- Unimproved pit latrine
- Pit latrine with sanplat and roof but no door
- Pit latrine with sanplat and roof and door

### Method:

1. Divide into groups and hand out pictures.
2. Groups arrange pictures in the form of a 'ladder' - the worst sanitation practice at the bottom and the best at the top
3. Decide at what level the community or household is now
4. Decide at what level the community would like to aim at
5. Do action planning - who to do what when and how

### Discuss:

a. Which option is:

W the most/least expensive? • W hardest/easiest to do/maintain?

W the most/least healthy? • W the most/least smelly?

b. What are the advantages or disadvantages of each option?

e. What are the barriers preventing you from adopting each option?

d. What practical steps can you take to improve your sanitation

# Annex 11: ODF verification form on household hygiene and sanitation

**District:** ..... **Date :** .....  
**Conducted by:** .....  
**Sub county:** .....  
**Parish:** .....  
**Village:** .....

No.	Demographic characteristics			Latrine					Hand washing					Safe Water chain										
	Name of Household Head	Family Size	Males	Females	Latrine Present	Privacy	Fly Proof Pit Cover	Clean ability	Anal Cleansing	HWF Present	Hwt + H2o + Soap/ Ash	Bath Shelter	Bath Privacy	Kitchen	Drying Rack	Store	Animal House	Refuse Pit	Water Containers	Clean	Safe Water Source	OD Found		
1																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
Total																								

**Verification Team**  
**Name** ..... **Title** ..... **Telephone** .....  
**No** ..... **Sign** .....  
**1:** ..... **2:** .....  
**3:** .....

**NB :** Present = √ Absent = x **References: List of Reviewed**

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List of Reviewed Materials



# NATIONAL SANITATION AND HYGIENE GUIDELINES



**THE QUEEN ELIZABETH  
DIAMOND JUBILEE TRUST**

THE  
CARTER CENTER

