UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

NATIONAL GUIDELINE FOR WATER, SANITATION AND HYGIENE FOR TANZANIA SCHOOLS

July, 2016

Preface

School is important not only as temple of learning but also as the place where children spend almost a third of their entire day and inculcate values which remain with them for most of their lives. Schools should be places where children feel safe, secure and have the basic amenities and facilities that allow them to learn and play for their growth and development. However, only 38% of schools have adequate number of latrines; 20% of schools have water supply facilities within the school premises and less than 10% of all schools in the country have functioning hand-washing facilities with available water to enable children maintain their personal hygiene and internalise relevant sanitation practices. Girls and boys are likely to be affected in different ways by inadequate water, sanitation and hygiene conditions in schools, and this may contribute to unequal learning opportunities

The School Water, Sanitation, and Hygiene (SWASH) guideline and its toolkits deal with both hardware and software aspects needed to bring about changes in hygiene behaviour of students and, through these students, in the community at large. The hardware is the total package of sanitary conditions and facilities available in and around the school compound. The software are the activities aiming to promote conditions at school and practices of school staff and children that help to prevent water and sanitation-related diseases. It stipulates key strategic areas including, requirements for successful and sustainable School WASH, minimum standards for School WASH, Technical option for water and sanitation, operation and maintenance of School WASH facilities, sanitation and hygiene education, institutional arrangements, financial mobilization and management. It also complements national efforts on improvement of school sanitation and hygiene contributing to a positive learning environment, quality education and health for school children.

School hygiene, sanitation and access to water can make an enormous difference in the lives of school children. A clean, safe, secure and enabling environment in which pupils can learn and perform to their full potential is a vital part in any child's life and a basis for development. We urge all stakeholders to give a high priority to the School WASH improvement and to use this guideline as a valuable tool to support this endeavour of making school environment healthier. Let us make sure every child in Tanzania is given the opportunity to go to school in a healthy environment.

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PERMANENT SECRETARY
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Acknowledgement

After the family, schools are the most important places of learning for children; they occupy a central place in the community. Schools are a stimulating learning environment for children and stimulate or initiate change. This Guideline for School WASH is meant to assist the stakeholders of School WASH in facilitating efforts to implement the School WASH activities. It provides them with tools and ideas on how design School WASH facilities in sustainable manner. By focusing on school going children and turning schools into centres of health and cleanliness, future generations will be better prepared to care for their families, health of communities and clean environment.

The development of this National Guideline involved various stakeholders including sectoral Ministries, Development Partners (DPs), International, National and Non-Governmental Organizations (NGOs) and other actors. Their tireless efforts and time during the development of this School WASH Guideline has contributed to its finalization. The government of Tanzania would like to thank UNICEF for their immense support in financing the development of this document.

The participatory process which led to the development and piloting of the guideline has been funded by Australian Aid through a global grant with UNICEF. The support process has been co-ordinated and managed by the Netherlands Development Organisation (SNV), UNICEF and Water Aid.

Finally but not least in importance, special thanks go to Water and Engineering Development Center of Loughborough University (UK) and ASAL consultant Kenya to grant to reproduce and adapt the original designs.

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Acronyms

ARU	Ardhi University
CBO	Community - Based Organisation
CCBRT	Comprehensive Community Based Rehabilitation in Tanzania
CDG	Capital Development Grant
DWST	District Water and Sanitation Team
EEPCO	Environmental Engineering and Pollution Control Organisation
GoT	Government of Tanzania
HAPA	Health Action Promotion Association
HHSH-TWG	Household Sanitation & Hygiene Technical Working Group
HWTS	Household Water Treatment & Safe Storage
IEC	Information Education Communication
LGA	Local Government Authority
LGCDG	Local Government Capital Development Grant
MDG	Millennium Development Goal
MKUKUTA II	Mkakati wa Kukuza Uchumi na Kupunguza Umaskini Tanzania (National Strategy for Growth and Reduction of Poverty)
MoEST	Ministry of Education, Science and Technology
MoHCDGEC	Ministry of Health, Community Development, Gender, Elderly and Children
MoU	Memorandum of Understanding
MoWI	Ministry of Water and Irrigation
MUHAS	Muhimbili University of Health and Allied Sciences
NGO	Non-Governmental Organisation
NSHSC	National Sanitation & Hygiene Steering Committee
NSHTC	National Sanitation & Hygiene Technical Committee
NWSDS	National Water Sector Development Strategy
OGP	Open Government Partnership
O&M	Operation and Maintenance
PEDP	Primary Education Development Program
PO-RALG	President Office – Regional Administration and Local Government
PoU	Point of Use (Water Treatment)

RS	Regional Secretariat
SEDP	Secondary Education Development Program
SEMA	Sustainable Environmental Management Action
SHIPO	Southern Highlands Participatory Organisation
SNV	The Netherlands Development Organisation
SWASH	School Water, Sanitation & Hygiene
SWASH-TWG	School Water, Sanitation & Hygiene Technical Working Group
TAWASANET	Tanzania Water and Sanitation Network
TEC/DEN	Tanzania Early Childhood Development Network
TENMET	Tanzania Education Network
TIE	Tanzania Institute of Education
WASH	Water, Sanitation and Hygiene
VIP	Ventilated Improved Pit latrine
WSDP	Water Sector Development Programme
WSS	Water Supply and Sanitation

DEFINITION OF TERMS

SWASH refers to School Water Sanitation and Hygiene.

School refers to primary and secondary schools; boarding/day or both; Rural or Urban located; Public or Private school.

School community in this strategic plan refers to students, teachers and other staff working in the school.

School children refers to children at school who include pupils and students.

Key ministry is the one having direct role(s) on Water Supply, Sanitation and Hygiene in schools and community.

WASH facilities includes water supply facilities, latrines, hand-washing facilities, incinerators, refuse pits, and other waste collection and disposal facilities.

Water sources - spring water, tap water, shallow wells and rain water harvesting.

Sanitation means of preventing human contact from the hazards of waste to promote health. It is generally used to refer to the provision of facilities and services for the safe disposal of human feaces and urine, but it can also be used to refer to the maintenance of hygienic conditions, through services such as garbage collection, including for menstrual hygiene protection materials, and wastewater disposal.

Basic sanitation means management of human feaces at the household level. This terminology is the indicator used to describe the target of the Millennium Development Goal on sanitation.

On site sanitation is the collection and treatment of waste is done where it is deposited. Examples are the use of pit latrines and septic tanks.

Environmental sanitation means the control of environmental factors that form a link in disease transmission and have an impact on human health. Subsets of this category are solid waste management, water and wastewater treatment, industrial waste treatment and noise and pollution control.

Ecological sanitation - a concept and an approach of recycling to nature the nutrients from human and animal wastes.

Improved sanitation – includes the following technologies (as defined by the Joint Monitoring Programme (JMP) for water and sanitation of WHO and UNICEF).

- connection to public sewer

- connection to septic system
- pour-flush latrine
- simple pit latrine with a slab
- ventilated improved pit latrine

Hygiene is the method of using cleanliness as a method of preventing disease.
Personal hygiene – keeping the body clean to prevent disease.

Hygiene promotion – the planned, systematic attempt to enable people to take action to prevent or mitigate water, sanitation and hygiene related diseases.

Hygiene education – the provision of education and / or information to encourage people to maintain good hygiene and prevent hygiene related diseases.

Health promotion - is the process of enabling people to increase control over the determinants of health and thereby improve their health.

Hygiene facilities for schools are essentially hand and body washing amenities, and sanitary bins in girl's toilets and dustbins.

Cross cutting issues in this document refers to gender and disability issues.

- *Gender* - refers to the society constructed roles, behavior, activities and attributes that particular society consider appropriate for men and women.
- *Disability* –is the loss or limitation of opportunities to take part in the normal life of the community on an equal level with others due to temporary or permanent physical, mental or social barriers. Such a loss or limitation could be aggravated by community's perception of disabled people.
- *Menstruation or menses* – is a natural bodily process for girls and women and which means women and girls have particular sanitary and hygiene needs.

1.0 INTRODUCTION

The School Water, Sanitation, and Hygiene (SWASH) guideline and its toolkits were developed by four key Ministries; President Office – Regional Administration and Local Government (PO-RALG), Ministry of Education, Science and Technology (MoEST), Ministry of Health, Community Development, Gender Elderly and Children (MoHCDGEC), Ministry of Water and Irrigation (MoWI) with support from various Development Partners, International and National Organisations that are interested and actively involved in School WASH in Tanzania. This guideline focuses specifically on water; sanitation and hygiene (WASH) in Primary and Secondary Schools. It sets out the minimum requirements for SWASH that are relevant to various types of schools in different contexts in Tanzania. It is designed for use in different school settings where simple, affordable and replicable options can be promoted to contribute significantly to improving water, sanitation and hygiene conditions in Primary and Secondary Schools.

The guideline has been developed in response to the existing problems and challenges, and introduce standardized technical options and hygiene education approaches that are suitable and can be promoted in Tanzania schools. The technical options for School WASH facilities and hygiene education approaches presented in this guideline, are based on national and international best practices and models that have been successfully promoted in Tanzania. Technical options are carefully designed to reflect the varying social, economic and cultural context in different regions of Tanzania. Innovative designs and approaches included in this guideline that had not been introduced to Tanzania before, have been pre-tested and piloted in different regions of Tanzania to examine the acceptability and suitability to different communities and cultural settings. There is strong emphasis on pre and post construction activities to ensure regular, correct use and maintenance of facilities. Periodical monitoring and inspection is used as a tool to assess school performance and compliance. The result will be used for prioritized funding allocation.

Many schools (section 1.2) are currently far from achieving acceptable levels of water, sanitation and hygiene and therefore appropriate targets will often be impossible to reach in the short term. This guideline provides means to reach the national targets whereby the most urgent problems or those that can be addressed at once will be identified and targeted immediately. Other proposed changes can subsequently be made when funds availability allows.

1.1 Objectives of the Guideline

This guideline has been developed with the aim of guiding effective and efficient provision of water, sanitation and hygiene in primary and secondary schools, hence contribute in quality education. Specifically the guideline is to:

i. assess the existing SWASH situation and to evaluate the extent to which those schools may fall short of national standards; and subsequently plan and implement any intervention or improvements;

ii. provide basic information (such as technical designs, cost estimates, operation and maintenance requirements) on a range of technical options that are suitable for various social economic conditions for different ages, gender friendly and those with with disabilities;

iii. set out specific standards to ensure that the improvement of existing and construction of new WASH facilities in schools meet the minimum requirements;

iv. set out specific standards to ensure that hygiene education in schools meet minimum requirements;

v. assist schools and communities with the development of comprehensive and realistic action plans so that set targets are implemented;

vi. provide relevant tool-kits that can be used by the various target groups (school teachers/pupils; LGAs, International/Local NGOs and contractors; Development Partners; decision-makers) for development and implementation of strategic action plans for SWASH improvement;

vii. support implementation of the relevant National Policies through setting and achieving specific standards that are in line with national and international development strategies; and

viii. assist LGAs to involve and support communities and schools in planning, budgeting, implementing and monitoring for School WASH improvement.

1.2 Current Status and Challenges for School WASH

The SWASH mapping survey (2009) in all primary and secondary schools in 16 Districts of Tanzania indicated that the water, sanitation and hygiene situation is very poor[1]. Only 11% of the schools surveyed meet the national standard of 20 girls and 25 boys per drop hole[2]. Twenty percent of the schools have more than 100 pupils per drop hole and 6% of schools have no latrines at all. It was also found that 96% of schools do not have facilities that are suitable or accessible to children with disabilities. Furthermore, around 40% of latrines have doors (however, these do not always guarantee privacy) and very few have hygienic facilities such as soap (1%) or sufficient water for hand-washing (8%) and just 7% of the latrines were free from smell or soiling. Regarding water supply, 62% of the schools in these Districts reported to have access to piped or other protected water supply options. However, some schools that reported having access to piped water or other protected water supply options do not have water on a regular basis and not all of these schools actually have the water supply sources within the school premises.

[1] SNV/ UNICEF/ WaterAid School WASH Mapping Report (2011)
[2] MoEVT: National Education Policy (2007)

The overall picture from the SWASH mapping indicates that most schools are characterised by a non-existent or insufficient water supply, poor sanitation and lack of hand-washing facilities. In other cases, facilities do exist but many are broken, unhygienic or unsafe. Moreover, SWASH facilities (e.g. latrines) in most schools do not reflect the needs of girls, pre-primary school children and children with disabilities. There is a risk of low school attendance of girls (during their menstruation period) due to poor sanitation and hygiene facilities, denying them the necessary privacy and the right of getting education like their counterpart (boys).

Diarrhoea is the most serious public health problem related to sanitation in Tanzania causing thousands of deaths among children every year. Disease statistics from MoHCDGEC indicates that 60-80% of the diseases requiring hospital attendance are those related to poor sanitation. In most Districts sanitation related diseases are ranked third among the top ten diseases causing morbidity[3]. A repeated episode of diarrhoeal diseases makes children more vulnerable to other diseases and malnutrition; both malnutrition and inadequate sanitation are linked to poverty.

There are a number of national and international actors trying to improve the SWASH situation in primary and secondary schools in Tanzania. Each actor is currently using its own approach and designs for facilities, training and hygiene promotion. There is no standardized guidance on good practices or materials that can be used to undertake effective School WASH interventions. The MoEST, MoHCDGEC, and MoWI each has some form of guidelines or designs which they promote for SWASH facilities, but these have been incoherent across the Ministries. Guidelines and best practices on water, sanitation and hygiene in schools are widely available but there is need for coordinated guidance and standards for low-cost setting

The major challenges facing most schools in Tanzania include:

i. severe lack of SWASH facilities leading to overcrowding and rapid deterioration of facilities;

ii. lack of clear plan or commitment for the operation and maintenance of facilities;

iii. low level of involvement of school teachers, pupils; communities and community in SWASH planning and implementation;

iv. lack of monitoring and follow up measures to ensure that minimum requirements are in place and adhered to;

v. hygiene education focusing mainly on theory and knowledge rather than encouraging hygiene practices and behaviour changes; and

vi. unclear roles and responsibilities between key stakeholders,

[3] MOHSW (2009): Sanitation and Hygiene Policy (Draft)

vii. capitation grant in reality is neither fully received nor timely disbursed (the target is TZS 10,000/- and 25,000/- per pupil per year for primary and secondary school respectively).

1.3 The Scope of the Guideline

This guideline has been developed based on the minimum conditions required for providing schooling with a healthy environment for school children, teachers and staff. This document deals specifically with water, sanitation and hygiene service. The provision of having safe drinking water is a essential for children's health and hence all schools should work to ensure its availability. The guideline is designed for use in different school settings where simple, affordable and replicable options can be promoted to contribute significantly to improving water, sanitation and hygiene conditions in schools.

The areas that are covered by the guideline include:

i. Introduction
ii. requirements for sustainable School WASH
iii. minimum standard for School WASH;
iv. institutional arrangements for School WASH;;
v. technical Options for water and sanitation facilities
vi. maintenance and operationfor School WASH facilities;
vii. hygiene education and promotion;

financing the school wash sub-component

1.4 Target Audience and the Use of the Guideline

This guideline is divided into two parts: The General Guideline and a set of different toolkits which can be used by different users as indicated in Table 1:

Table 1. Guideline and Toolkits

Document	Description	Users
The Guideline (this document)	This General Guideline serves as the main menu that provides guidance on minimum standards and pre-conditions for sustainable SWASH; general information and a brief description of each toolkit.	This document can be used by all stakeholders involved in SWASH

Document	Description	Users
Toolkit No.1: Assessment and monitoring tools	1A: A simple matrix with assessment criteria developed to facilitate the assessment of WASH situation in schools. Each assessment criterion is designed with a score which will help to assess the current situation in schools and identify the level of intervention needed.	Schools, local/central government and funding agencies can use this to prepare their annual plans and budgets for SWASH improvement.
	1B: This toolkit consists of an application form which seeks the willingness and commitment to contribute towards a proposed School WASH intervention. It is intended to encourage school management and communities to actively participate and contribute to the School WASH development and improvement to ensure sustainability of School WASH interventions.	School committee and Village/Mtaa Chairman, Village/Mtaa Executive Officers
	1C: This toolkit is used to for planning of SWASH activities at different stages of School WASH implementation.	Any SWASH stakeholder/imple menter.
	1D: This monitoring tool compromises a simple set of indicators that can be used to monitor or inspect the SWASH status, identify potential problems, plan and take action to correct them.	Central government, regional secretariats, Council water and sanitation team (CWST), school inspectors, ward education officers , or any other responsible actors.
	1E: This tool comprises a simple set of indicators that can be used for internal monitoring of SWASH status, identify problems, and take action to correct them in a timely way. The results of the monitoring can be used for arrangement for rehabilitation and O&M plan.	School teachers, pupils, school committees/boards, and communities.

Document	Description	Users
Toolkit No.2: Technical Options for School WASH (in two parts)	Technical options: various technical designs for SWASH facilities have been selected and provided from the existing ones that have been promoted in Tanzania (by Ministries, international / national organisations. Bill of Quantity for the selected SWASH facility options: this will form the basis for planning and budgeting purposes. O&M guideline for the selected SWASH facility options: this aims to guide schools to make sure the constructed facilities will be correctly used, cleaned and maintained.	NGOs and Government agencies responsible for SWASH facilities construction. LGAs/schools to develop budget for SWASH facility. School teachers/parent representatives for construction supervision. Schools (teachers; management and pupils).
Toolkit No.3A &3B: Sanitation & Hygiene Education for Primary and Secondary Schools; Handbook for Teachers	This toolkit 3A was prepared to help Sanitation and Hygiene (S&H) teachers at pre-primary, primary and 3B for secondary schools in Tanzania to be able to perform or deliver S&H knowledge to pupils. It entails child learning approaches. Different themes of sanitation and hygiene education are reflected.	Teachers, SWASH promoters.
Toolkit No 4: Training Manual on the Use of the Guideline and its Toolkits	This toolkit can be used to train and orientate key stakeholders on how to use the guideline and its toolkits correctly and effectively.	LGAs, International and Local NGOs, Trainer of Trainers

Document	Description	Users
Toolkit No.5A and 5B: Training Manual for primary and secondary Teachers on Hygiene Education respectively	This Toolkit 5A is used to train teachers on sanitation and hygiene education for primary and 5B for secondary schools in conjunction with (toolkit No.3).	Teachers, trainers of teachers, and teachers training institutes.

2.0 REQUIREMENTS FOR SUCCESSFUL SUSTAINABLE SCHOOL WASH

Sustainability of an intervention means the continuation of its benefits and impact after the intervention itself has ended. Without water and sanitation facilities, hygiene promotion and education in schools will have a minimal impact. The provision of safe water and sanitation facilities is a first step towards a healthy learning environment. However, provision of SWASH facilities alone is not enough to guarantee the adoption of positive hygiene behaviour by school children. Similarly, teaching children facts about hygiene alone does not automatically lead to changes in their behaviour unless they have the opportunities to practice and adopt the positive behaviours that they acquired from the lessons.

A comprehensive SWASH programme needs to plan for adequate development of SWASH facilities, communities and community involvement, as well as effective hygiene education, behavioural change and correct use and maintenance of the provided facilities.

The following components are vital for the sustainability of SWASH and it is important to take them into consideration when designing any intervention:

2.1 Sanitation and Hygiene Education

Successful School WASH ensures all pupils practice proper hygiene and sanitation behaviours. Therefore, hygienic and sanitation practices should be built into the school curriculum as a permanent feature. Teachers can use various teaching methods in order to improve pupil's behaviour including: *Life skills based education* which is meant to be child friendly, interactive and participatory. Teaching methods should give pupil the opportunity to explore and acquire hygiene – promoting knowledge, attitudes and values and to practice skills that help pupils to avoid the risky, unhealthy situations and to adopt healthier life style. Teaching and learning methods in life skills based hygiene are meant to be child – friendly, interactive and participatory, and should be determined by the learning objectives and the desired behaviours outcomes.

Teachers should be creative and choose teaching resources appropriately in relation to locally available materials and the existing situation in schools for influencing specific behaviours and knowledge. For effective – child centred life - skills hygiene education, teachers should give pupils the opportunity to learn by doing, in their own pace and in their own style. The use of these methods will give pupils the chance to experience, discover, create, and construct their own knowledge which will lead to good hygienic practices and behaviour.

With regard to hygiene and sanitation education, teachers are encouraged to reinforce discussions by practical demonstration, repetition of messages, on – the – spot correction of unsanitary practices and stimulating use of sanitary facilities like latrines, waste pits, and hygiene practices such as hand washing and tooth brushing. In order to become effective promoters and implementers of hygiene education teachers are required to have commitment in fulfilling their roles and

responsibilities in order to bring changes. Teachers should creatively motivate pupils to:

- improve their direct environment at schools;
- become promoters of improved environmental sanitation and personal hygiene in their own families and communities; and
- become promoters of construction of disposal facilities for excreta and garbage and proper use and maintenance of facilities in schools, their own households and communities.

One of the Strategies to achieve these objectives includes the establishment of School WASH clubs.

2.2 The Home - School Linkage

In order to achieve the maximum positive health impacts for children, the availability of safe water, sanitation facilities, and good hygienic practices at home is equally important as it is at school. Schools need to engage communities and community to ensure that WASH messages and behavioural changes are reinforced in homes. When communities are involved in School WASH activities, they are also reached directly with the same WASH messages that are taught to their children, making it more likely that behaviour will be reinforced at home, that is what is learned at schools can also be practice at home. The overall health impact of the School WASH will therefore be increased if sanitary conditions at home or in the community are also improved.

Possible activities for the outreach to families and the community are:

i. putting up posters in the community or in households with hygiene messages that have been developed or presented during hygiene lessons;
ii. setting up a School WASH Club that takes up the tasks of organising activities in the community;
iii. inviting the communities or siblings to watch a role-play written and acted out by the pupils;
iv. involving the communities in the school sanitation and hygiene education activities such as the construction of new facilities or the operation and maintenance of existing facilities; and
v. giving the children homework or lessons that include survey work in their homes and the community, such as making a drawing of the way drinking water is stored in their homes, counting the number of latrines in the community, mapping the neighbourhood or making a community map with the different types of water and sanitation facilities.

Figure 1 Home-school linkage

2.3 Community Involvement

Community involvement is an important aspect of a comprehensive school water sanitation and hygiene intervention. It refers to the engagement and participation of the community members in all stages of the initiative to improve the school learning environment. Community involvement creates a sense of communal responsibility and ownership, which is necessary for the sustainability of SWASH. It is an asset which can contribute to the required resources (could be in terms of labour, expertise, cash contribution, local available materials etc) for implementation of the SWASH improvement strategies in the community. Therefore communities can be involved in identifying the existing gaps of SWASH facilities based on the assessment, setting up priorities for intervention and plan for implementation, which is in-line with open Government Partnership (OGP).

2.4 Appropriate and Affordable Technologies

2.4.1 Appropriate Technologies

The provision of SWASH facilities will only be useful if they are suitable for and used by the pupils. Technologies introduced need to be socially and culturally acceptable to pupils of different ages or social backgrounds. For example, in some communities used menstrual pads cannot be dumped and incinerated but should be buried by the users . VIP latrines might not be suitable for younger school children because of its darkness. In some cases children have not been brought up to use latrines at home or there is no habit to use certain WASH facilities in the past for cultural reasons. Both communities and children need to be involved in the planning and designing of SWASH intervention to make sure that the concept of the new facilities is well understood and accepted. Even though pit emptying

might be culturally sensitive in some communities, the guideline emphasizes on sensitization of sustainable latrine facilities that are cost effective which can be achieved by emptying as a minimum standard in order to achieve sustainability.

2.4.2 **The availability of construction materials and parts**

The local market for construction materials is the second determinant of continuity of use. When products are not easily available in the market and replacement parts are hard to find, sustainability of the intervention becomes a challenge. Therefore, there is a need to select and use options whose products/parts are locally available. In addition, training of local artisans on fabrication and use of affordable local building materials enhances continuity of facility use.

2.4.3 **Affordability**

Financial constraint is the major problem in most schools. Technical options presented in this guideline range from very simple/basic that meet minimum requirements to medium and more advanced options. In addition to social and cultural factors, schools need to take into consideration their fund availability to decide which options are most suitable and affordable.

2.5 Operation and Maintenance Arrangements

Inadequate operation and maintenance (O&M) is a major obstacle in achieving sustainable WASH in Schools. Unattended WASH facilities tend to become unused or can become a source of disease transmission.

Many problems related to incorrect use, poor operation and maintenance occur because the schools lack a clear plan and budget for who is responsible for O&M. Each school needs a plan showing how to use facilities and who will clean them, when and how. Each school also needs to determine who will pay for the O&M of the facilities and what will be community involvement in this. These issues need to be discussed and agreed with teachers, pupils and communities. Each school should have an O&M plan with clear roles and task assigned to specific groups. Further explanations on how to organise and implement O&M is described in chapter 6 of this document.

3.0 MINIMUM STANDARDS FOR SCHOOL WASH

The minimum standards set out in this section were developed on the basis of the combination and harmonisation of standards stipulated by the Government for School WASH (MoEST and MoHCDGEC). Given the fact that many schools are currently far from meeting the national targets and MKUKUTA, the following minimum standards were set to support the achievement of targets.

3.1 Water Supply

i. All schools should have access to a protected water source within their premises. Water sources (such as shallow wells) must be 50 meters away from the toilets or waste water sources/drainage.

ii. Water should be always available (e.g. water point does not go dry in the dry season, not functional, tap broken or pipe blocked, etc.) and sufficient for hand-washing, cleaning and self- cleansing.

iii. Safe drinking water should be available throughout the school year; at least one litre of water per day for each pupil.

iv. If drinking water is stored in school, containers should be clean and covered, and there should be an elbow tap from the container to safely remove the water without contaminating it.

v. The water point design should be appropriate and accessible for younger pupils and pupils with disabilities.

vi. There should be a functional drainage/soak pit from the water point.

3.2 Latrines and Urinals

i. All latrines should have a washable floor.

ii. The design and location of latrine pits should allow convenient emptying.

iii. Pupil/Latrine Ratio: The official Government standard is 1:20 and 1:25, for girls and boys respectively but initially this could be 40-50 in order to alleviate the urgent demands as reflected in MKUKUTA II.

iv. Each school should have separate latrine blocks for girls and boys. These blocks should be a minimum of 10m apart for the purposes of privacy and security and should have a privacy wall in front of the doors.

v. There should be a safe and clean unit where girls can bathe or clean themselves during menses.

vi. There should be a separate block of latrines for teachers; with at least one drop-hole for male and one for female teachers.

vii. Latrines/ urinals should be in good condition and used by all.

viii. Latrines/ urinals should be child friendly (easily accessible, not too dark, in case of toilet, they should be at the height of a child, size of pit holes not too big etc.).

ix. There should be at least one drop hole available and suitable for pupils with disabilities, preferably one for boys and one for girls and these latrines should meet minimum requirements for accessibility (see Toolkit 2).

x. Cleanliness: latrines/urinals should be free from excreta, stagnant urine and flies. There must be provision of water within or near the latrine for self-cleansing.

xi. Latrine doors should be lockable to ensure privacy for the users.

xii. Latrine doors and handles should be in easy reach for pupils of different age and suitable for pupils and teachers with disabilities.

xiii. Soap and water should be provided near the latrine for hand washing and should be within easy reach of the pupils.

xiv. Latrines should be open during school hours and locked after school hours.

xv. There should be cleaning materials available for latrines/urinals like brooms, disinfectants, ashes etc.

xvi. There should be a functional soak pit or drainage for waste water.

xvii. Urinals should be provided with a functional drainage.

3.3 Hand-washing Facilities

i. All schools should have at least one functional hand-washing point for every 100 pupils.

ii. All hand-washing points should have adequate clean water and soap.

iii. Hand-washing facilities should be located in a convenient and accessible location, including pupils with disabilities and different heights to accommodate all pupils.

3.4 Solid Waste and Waste Water Disposal

i. All schools should have bins or other facilities which are easily accessible for solid waste collection and disposal.

ii. There should be facilities available in girls' latrines or hygiene unit for sanitary pad collection and disposal.

iii. Solid waste should be collected daily within the school premises and disposed safely (incinerating, burying, offsite disposal).

iv. Wastewater: there should be drainage or soak-pit near water/hand-washing point or kitchen.

3.5 Maintenance of School WASH Facilities

i. School yard, classrooms and surrounding areas should be clean (no human excreta, no urine, and no solid waste).

ii. All schools should have the quarterly checklist for School WASH (either Toolkit 1C or other checklists).

iii. There should be a maintenance fund such as for latrine cleaning, buying soap, cleaning materials and there should be arrangements (see Section 6) for maintenance of SWASH facilities.

iv. The task of cleaning or maintaining sanitary facilities should be shared equally among girls and boys (if there is no hired cleaner/care taker).

3.6 Hygienic Practices

i. All girls and boys should practice hand-washing with soap at critical times (such as after latrine visit and before eating).

ii. All girls and boys should use the school latrines/urinals properly.

iii. All pupils and teachers are aware of the health benefits of hand washing with soap.

iv. All pupils need to come to school with clean clothes, wearing shoes, clean hair, nails, and a clean face.

v. Pupils and school staff are not allowed to spit in the school premise.

3.7 Hygiene Education

i. Hygiene education is a part of school curriculum from pre-school up till standard six.

ii. Hygiene education materials (books as well as teaching aids, Toolkit 3&5) are available, suitable, and used for children of different ages.

iii. Schools organise activities to provide and discuss with communities information on sanitation and hygiene.

iv. Teachers involve children in extra-curricular hygiene activities (e.g. designing project or campaign on hygiene promotion in schools or at home).

v. Pupils demonstrate proper hand-washing and explain critical times and reasons (e.g. to reduce risk on contagious diseases).

vi. Teachers are trained regularly (at least once per year) on methodologies and approaches in school hygiene education, being part of teacher refresher courses.

vii. Each school should have an active SWASH club (it can be a new club or part of existing clubs such as the health or environmental club).

3.8 School Kitchen, Food Handling, and Dining Areas

3.8.1 School Kitchen

i. The school kitchen should have a cleanable floor, adequate water supply, be free from vermin and rodents, have a separate storage of raw and cooked food, etc.

ii. Location of the kitchen should be away from sources of contamination like latrines, disposal sites.

iii. A kitchen should have intervening ventilation (such as provision of chimney).

3.8.2 Food Handling

i. Food should be prepared with safe water and by a cook who practices hand washing with soap before preparing and serving food.

ii. Food handlers should undergo periodic (every six months) medical examination. Food handlers who are found to be sick should be treated, recovery has to be ensured before resuming their work.

iii. Separate tasks/spaces (that is for preparation and clean up) in the kitchen and dining areas in order to prevent cross-contamination of food.

iv. Kitchen utensils must be washed with clean water and detergent.

v. Contact between raw food and cooked food must be avoided.

vi. Food should be cooked thoroughly and stored at a safe temperature prior to serving.

vii. Safe water for washing fresh raw ingredients should be used.

3.8.3 Dining Areas

i. The school dining hall should have a cleanable floor, adequate water supply, ventilation, be free from vermin and rodents.

ii. A dining area has seats and tables with washable surfaces for pupils taking meals

iii. Hand-washing facilities with soap should be provided near the dining area.

iv. In or near the dining area, have an area designated for disposal of food scraps and return of utensils.

v. If pupils participate in kitchen duties (such as fetching water, assisting with preparations, serving, cleaning up), then they need hygiene education and supervision by teachers.

4.0 INSTITUTIONAL ARRANGEMENTS FOR SCHOOL WASH

School WASH is a cross-cutting issue of which its coordination needs clear direction for implementation and adequate guidelines with specific roles and responsibilities of each key player. SWASH interventions by players from different ministries, partners and agencies need a clear coordination structure.

4.1 School WASH Institutional Set up at Ministerial Level

The Memorandum of Understanding (MoU) signed by four key Ministries responsible for School WASH (MoHCDGEC, MoEST, PO-RALG and MoWI) provided coordination, mechanism and clarifies roles and responsibilities. The structure below illustrates the relationship among the four key Ministries.

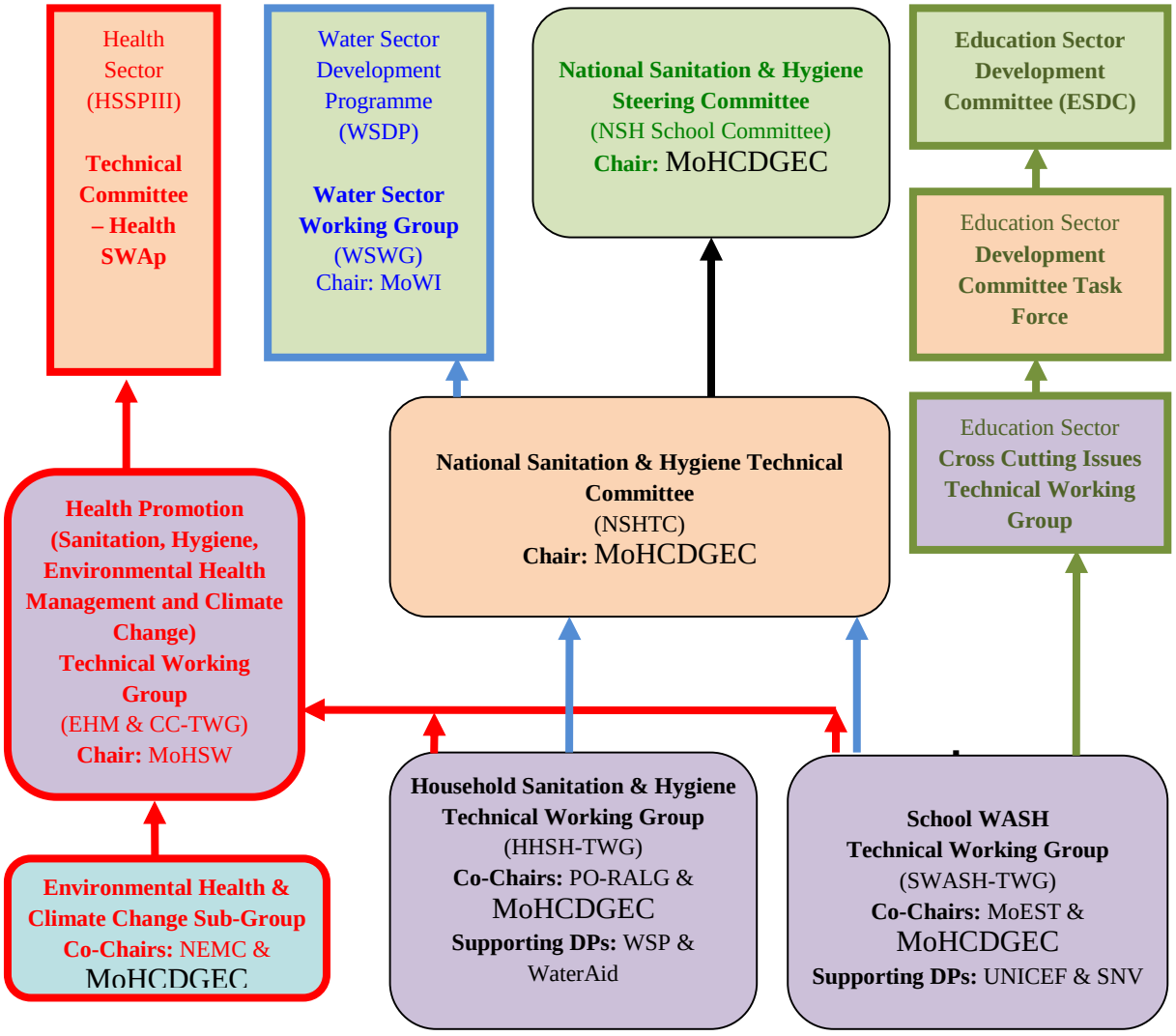

Figure 2 Water, Sanitation and Hygiene Coordination Structure

4.2 Roles and Responsibilities of SWASH Key Stakeholders

The Table 2 stipulates roles and responsibilities of key stakeholders from the national level to the School level.

Table 2. Roles and Responsibilities of Key Stakeholders in SWASH

Stakeholder	Roles and Responsibilities
National level	
MoEST	• Take the lead in the formulation and enforcement of SWASH standards • Take the lead in monitoring the implementation and coordination of WASH in schools • Jointly Chair the Technical Working Group for School WASH with the MoHCDGEC • Develop and review policy guidelines for School WASH in collaboration with the MoHCDGEC MoWI, PO-RALG and CSOs • Ensure the provision of SWASH training to LGAs • Develop/review materials for inclusion of SWASH in the school curriculum • Mainstream WASH in school curriculum and develop teaching and learning materials related to WASH for schools. • Monitor implementation of national policies, SWASH minimum standards and use of national guidelines by LGAs. • In collaboration with PO-RALG, ensure monitoring and evaluation of SWASH activities and facilities. • Coordinate planning and budgeting of SWASH for the implementation of NSC at Central level. • Mobilize and Solicit funds for School WASH activities • Conduct school inspection of WASH activities and facilities through Zonal and Council School Quality Assurance.
MoHCDGEC	• Chair the National Sanitation and Hygiene Steering Committee • Coordinate the National Sanitation and Hygiene Technical Committee

Stakeholder	Roles and Responsibilities
	• Jointly Chair the Technical Working Group for School WASH with the MoEST • Coordinate the formulation of policy, guidelines and strategies for hygiene and sanitation • Enforce Acts and Regulations relating to sanitation, hygiene and water quality regarding SWASH • Set appropriate and realistic standards and enforce them (to protect public health) for sanitation and hygiene and regulating processes in collaboration with MoWI • Provision of technical assistance to LGAs regarding sanitation and hygiene. • Harmonise and promote participatory approaches for sanitation and hygiene services • Monitor implementation of national policies, standards and use of national guidelines by LGAs • In collaboration with PO-RALG and MoEST, ensure monitoring and evaluation of SWASH activities and facilities.
PO-RALG	• Coordinate planning and implementation of LGA SWASH projects and ensure clarity of responsibilities for operation and maintenance. • Responsible for the development of the guidelines for SWASH budgeting at the LGA level, in collaboration with the MoF. • Provide information on the basis of which the distribution of LGA SWASH funds are allocated. • Together with MoEST, monitor and supervise construction of SWASH facilities. • Coordinate institutional streamlining and capacity building for LGAs, such as strengthening of CWSTs regarding SWASH. • Supervision and monitoring the performance of LGAs and other actors in SWASH. • Ensure all SWASH minimum standards and reporting system are adhered to by LGAs.

Stakeholder	Roles and Responsibilities
	• Mobilize and Solicit funds for School WASH.
MoWI	• Formulation of the SWASH component in National Water Policy (NAWAPO). • Facilitate provision of adequate water in schools. • Be involved in setting standards for sewerage systems in schools. • Monitoring, evaluation and assess quality assurance of water and wastewater in schools. • Coordination of water sector development activities concerning sanitation and hygiene including in schools. • Monitor implementation of national policies, SWASH minimum standards and use of national guidelines by LGA. • Monitoring School WASH in collaboration with LGAs.
Development Partners (Donors).	• Capacity building to support: a gradual and sustained process of strengthening the capacities of individuals, organisations, and society recognizing the type of capacity needs at each of these levels and the interrelationship between the levels. • SWASH Resource mobilization and financing for SWASH. • Support Monitoring and Evaluation of SWASH. • Support policy dialogue and formulation in SWASH.
INGOs/LNGOs; FBOs; CBOs.	• Facilitate, support, and carry out research and learning regarding SWASH. • Supporting provision of SWASH services in schools. • Support policy dialogue and formulation in SWASH. • Support Monitoring and Evaluation of SWASH. • Conduct SWASH policy analysis and advocacy. • Contribute experience, knowledge, financial, technical and material resources to the improvement and provision of SWASH activities. • Participate effectively in planning, implementing and monitoring of SWASH activities.

Stakeholder	Roles and Responsibilities
Regional Level	
Regional Secretariat	• Supervision and monitoring of LGAs on efficiency and effectiveness of use of resources related to School WASH. • Provision of technical advice to LGAs for implementation of School WASH. • Supervise planning, budgeting, implementation and reporting of LGAs.
Local Government Level	
Local Government Authority (Council Director, Municipal Executive Director, Town Director, District Executive Director)	• Provide resources and guidance for setting; achieving and maintaining the targets set by schools. • Ensure that assessment (using Tool Kit 1A) of School WASH facilities is carried out once a year. • Advocate at national and Council levels for equitable and adequate resources regarding School WASH. • Coordinate local School WASH service providers. • Ensure that sufficient technical support is provided during School WASH interventions. • Monitoring and supervision of implementation School WASH guidelines in schools as part of the routine monitoring and inspection process (using Tool Kit 1B, twice a year). • Organise and provide SWASH training (including hygiene education) and advice to teachers, head of schools, other school staff and school committees/boards. • Ensure correct and cost effective design and construction of School WASH facilities. • Ensure correct and cost effective maintenance of School WASH facilities. • Share reports timely on Council budgets and expenditure for School WASH among stakeholders to enhance transparency and accountability in response to Open Government Partnerships (OGP) principles. • Plan and coordinate School WASH competitions. • Ensure procurement procedures are adhered to during School WASH interventions. • To ensure motivation of teachers and pupils through tailor

Stakeholder	Roles and Responsibilities
	made courses, teaching aids and rewards for best performers in School WASH. • Mobilize and Solicit fund for School WASH.
Council Water and Sanitation Team (CWST)- School WASH lead by Council Education Officers.	• Provide the day to day leadership and coordination for School WASH activities in the District. • Plans and manages the Council's School WASH programme. • Serves as the communication link with all stakeholders in the District, and supervises and supports School WASH service providers. • Inform and consult Council Structures e.g. Full Council, Social Services Committee, departments heads (CMT), Council Tender Board, on School WASH developments. • Collect and analyze data on SWASH services and needs of schools in the District, in order to identify gaps (using ToolKit 1A and/or 1B). • Keep records and develop a data base /inventory on all SWASH facilities in the District. • Assist the Council Directors (CD) on the day to day coordination of School WASH. • Prepare Council Water and Sanitation Plan (CWSP) and annual plans, which include a SWASH component. • Promote awareness on SWASH projects and facilitate community demand. • Consolidate community proposals in SWASH and prepare consolidated budget. • Coordinate SWASH training of school staff, ward extension officers that is ward health officers, ward education coordinators, and communities. • Supervise and monitor school staff, ward extension officers i.e. ward health officers and ward education coordinators, and communities in SWASH activities. • Supervise and certify construction works and ensure quality standards in SWASH. • Administration of contracts, progress reports, bid evaluation report.

Stakeholder	Roles and Responsibilities
	• Trouble shooting help solve conflicts and problems at different levels. • Organize monitoring and evaluation of SWASH interventions. • Provide continuous backup support to communities and schools regarding SWASH.
Local Government - Ward Level	
Ward Development Committee	• Coordinate planning and budgeting of School WASH. • Coordinate all organisations and institutions supporting SWASH in the ward. • Follow up the implementation of water and sanitation activities in schools. • Facilitate community mobilization for SWASH activities. • Ward Education Coordinators participate in assessment/monitoring and school site supervision of School WASH activities (Toolkit 1A and 1B).
Local Government - Village Government Level	
Village Government	• Implement, monitor and support the development of improved School WASH facilities and practices and report to the Village/Mtaa assembly on progress. • Facilitate community mobilisation as well as other types of resource mobilisation for School WASH. • Planning and budgeting on village funds for School WASH at community and school level. • Ensure the Health & Environment Committee and/or the Water Committee address School WASH as part of their core responsibilities. • Organising community meeting/assembly in which SWASH is on the agenda. • Prepare Village/Mtaa financial reports and present to communities and the LGA through Village/Mtaa meeting after every three months on all progress and financial sources used for School WASH. • Contract management with local artisans or service companies in School WASH.

Stakeholder	Roles and Responsibilities
	• Promotion of awareness and action on School WASH. • Coordination between Social Services Committees and other relevant organization involved in School WASH. • To supervise construction of SWASH facilities and to ensure every school and household has latrines.
School Level	
School Committee	• Make sure minimum standards and targets for School WASH are met. • Create enabling environment to encourage teachers and pupils to meet the set standards. • Make sure hygiene education is part of school teaching activities. • Develop and enforce school rules and regulations to promote good hygiene and a healthy school environment. • Encourage communities-teachers to actively get involved in School WASH development. • Setting and enforcing regulations and by-laws in the proper use of WASH facilities. • To ensure provision of security to protect WASH facilities in schools. • To demand the provision of School WASH teaching aids at the LGA. • Organise the communities contributions for the O&M fund. • Plan, budget for finances available for School WASH from any source. • Plans for O&M of the School WASH facilities. • Prepare and share annually a report on SWASH achievements, progress as well as financial reports with the school and community on the use of expenditure on School WASH from the school capitation and development grant or other funding. • Quarterly monitoring of School WASH (using ToolKit 1C). • Encourage active involvement of communities in School WASH monitoring. • Ensure the facilities are correctly used and maintained.
Teachers	• Participate in training on hygiene and sanitation education. • Guide pupils to adopt good sanitation and hygiene

Stakeholder	Roles and Responsibilities
	behaviour changes through hygiene education programme. • Motivate pupils to participate in SWASH extra-curricular activities and serve as the catalyst for sanitation and hygiene promotion at home and in the community. • Supervise and promote proper use and maintenance of School WASH facilities and the school environment. • To teach and assess exercises based on sanitation and hygiene topics. • To establish and supervise an active School WASH club.
Pupils	• Use School WASH facilities correctly and responsibly. • Practice good hygienic behaviour. • Participate in school campaigns, development of hygiene messages, competitions and projects on School WASH. • Play an active role in cleaning and maintenance of SWASH facilities. • Act as a catalyst of change in the community on matters related to School WASH.
Parents/ community	• Educate/encourage children to practise good hygienic practices. • Contribute to the construction, rehabilitation and O&M of School WASH facilities in cash or in kind as and when required. • Actively participate in School WASH facility development (planning; selection of appropriate technical options, construction supervision, quality control, fund raising, etc.). • Participate in monitoring of SWASH activities to endure good quality of the constructed facilities. • To demand for School WASH budget and expenditures reports. • Work closely with schools in the area and other relevant Organizations.
Private sector **Local artisans** **construction companies**	• Advise on technical designs and materials appropriate for the location. • Provide cost efficient and quality services. • Undertake quality construction of School WASH facilities. • Undertake maintenance of School WASH facilities if contracted to do so.

5.0 TECHNICAL OPTIONS FOR WATER, SANITATION AND HYGIENE

This section briefly describes technical options for water supply and sanitation that are suitable to varying context and conditions of different localities in Tanzania and their advantages and disadvantages (see also Appendix 4 and 5). For detailed designs and bills of quantity of key options, (see also Toolkit No. 2) on Technical Options for School WASH.

5.1 Water Supply Options

5.1.1 Protected Springs

These are water sources where water has percolated through the soil layers and re-appears from the ground as a spring which may flow away and collect to form streams, rivers or lakes downstream. Spring water is often free from pathogens when the water comes out from the ground. If the spring is protected and if the dissolved minerals are within permitted parameters they can provide good quality drinking water.

Environmental degradation and other human activities are the major cause for the decrease of quantity and quality of spring water. Storm water (runoff) from upstream should be diverted away from the spring or directed to ground water recharge ditches which may even increase the discharge of the spring. No cutting of trees or farming should be allowed upstream and along the spring as these can negatively impact the spring's water quality and quantity.

Figure 3 Protected Spring

Proper management of the spring catchment environment can ensure a sustainable water source. Appropriate civil construction at the spring will provide adequate protection against contamination from both human and animal activities during collection of water from the spring. A spring may be protected by constructing a catchment box with a controlled outlet for safe communal water collection. The

spaces around the catchment box should be packed with permeable materials such as gravel for water aeration and see page(mention the page)

5.1.2 Shallow wells

A shallow or hand dug well is a simple method of making use of groundwater. They can be constructed and maintained with local resources at very low costs. Shallow wells are suitable in areas with a high groundwater table and good water quality. The technology is relevant if there is enough water in the soft formation within 10–20 m from surface. Dug wells are inappropriate for areas prone to flooding. Simple treatment technologies have to be used if water quality does not meet the required standards. A hand-pump or rope pump or a motor pump can be used for the extraction of water from a shallow well. Pump type depends on depth to water table.

Figure 4 Shallow well with Rope Pump

Figure 5 Shallow well with Hand Pump

It is important to have a cover for the well to prevent waste matters, small animals or insects falling into the well. This cover has to be designed so that it can be removed completely or partially when drawing water. Safety issues need to be taken into consideration in designing the wells (cover the wells; reasonable height) to prevent young children from accidently falling into the wells. In schools where shallow wells are used, latrines and waste water sources or soak pit must be located at least 15 meters from shallow wells; and all factors to be considered, that is distance, soil type and terrain.

5.1.3 Boreholes

Boreholes with hand-pump or electric pumps: Boreholes are suitable in areas where surface water sources and shallow aquifers tend to dry up during the dry season. Moreover, the quality and cost involved in the treatment of surface water sources makes it advantageous to explore for deep groundwater. In most cases, deep ground water provides safe water for drinking except in areas where excessive levels of minerals are present.

Borehole drilling is a detailed stage of groundwater exploration. Initial activities consist of a desk study on the hydro-geological conditions of the area under consideration, a field reconnaissance survey and possibly a geophysical survey before site selection is determined for drilling. The drilling methods employed depend on the hydro-geological conditions of the site. Boreholes can be constructed by machine or by hand operated equipment.

Figure 6 Borehole and Domestic Point

Figure 7 Hand Pump on Borehole

5.1.4 Rainwater Harvesting

Rainwater harvesting is suitable in areas with medium to high annual rainfall and in schools with relatively large roofing areas. Due to its dependence on the seasons it is usually only recommended if no other year-round solution exist and/or as an alternative source. The system consists of the roof of the building from where rain water flows through gutters and down pipes into collection tanks. Normally water may be abstracted from the tank by one or multiple tap(s); in the case of large tanks a motorised pump, hand-pump or a bucket and rope system may be used. Rainwater is preferably collected from roofs made of metal sheets or tiles. A thatched roof will fail to collect water effectively, lead to colouring of the water and is likely to make the water unpleasant to taste. The gutters and downpipes are required to channel rainwater from the roof to the storage tank. Gutters and downpipes can be made of a variety of materials, including galvanised iron, PVC, local wood or bamboo. Gutters should slope evenly towards the down-pipe otherwise water can spill out and pools of water can form breeding places for mosquitoes. Rainwater collection tanks can be made from locally made materials (earthenware jars) or plastic tanks, circular ferro-cement tanks/jars or plastered brick or cement ring tanks (under or above ground).

It is necessary to divert the first flow of water from the catchment surface away from the storage tanks as dust, dead leaves and bird droppings may fall on the roof during dry periods, which is dangerous contamination that can cause infectious diseases. This can be taken care of in the design such that the pipes or gutters are detachable from the collection tank, and the first runoff water from the shower is allowed to run to waste. Runoff water can be made to go through a small filter, consisting of gravel, sand and charcoal or a plastic mesh, before entering the storage tank in order to remove unwanted materials/elements.

Figure 8 Rainwater Harvesting

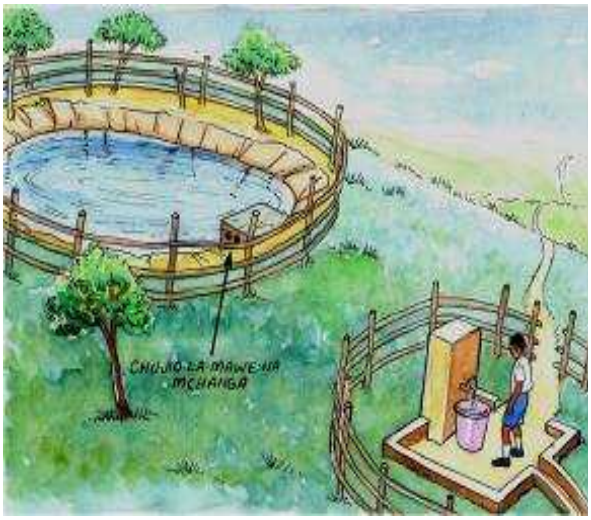

Figure 9 Charco Dam

5.1.5 Small dams or Charco dams

These are reservoirs for storing water, constructed in or adjacent to watercourses or within catchment areas, to store stream flow or surface runoff. Small dams are constructed by excavation, embankment or a combination of both and are typically designed to store 3,000 to 5,000 cubic metres of water. Small dams are subject to water losses through evaporation and seepage. Choosing less-exposed sites will reduce evaporation by wind action. Seepage can be reduced by choosing a site that has a clay soil base.

Sealing of small dams to control seepage can be done, but is expensive, typically clay, plastic membranes or soil cement are used to seal small dams. Watershed protection is essential to reduce silting and pollution of the small dam. Generally, water from a dam will require a treatment as for any other surface water source, therefore the provision of simple treatment methods such as sand filtration should be considered when a small dam water is provided for a school. Ideally, the watershed should be vegetated and livestock and human activity excluded by fencing. A buffer strip of at least 30 meters width planted with grass, should be used where surface runoff enters the small dam to reduce silt load and trashes, and the buffer strip should also be within the fenced area. Decision makers and

community need to make choices on the water supply sources based on critical analysis of the feasibility of the available options.

5.1.6 Piped water

A piped public water supply system often includes a number of taps, domestic point or stand pipes. The taps can be a globe or a self-closing type. Tap stands include a service connection to the supplying water conduit, and a supporting column. The column or wall may be of wood, brickwork, dry stone masonry, concrete. Some tap stands have a regulating valve in the connection to the mains that can be set and locked to limit maximum flow. A water meter may also be included. A solid stone or concrete slab or apron under the tap and a drainage system must lead spilled water away and prevent the formation of muddy pools. A fence may be needed to keep animals away. Tap stands are suitable in areas where piped systems are already in place.

Figure 10 Piped Scheme to a Domestic Point

A tap stand can become damaged through tampering or insufficient maintenance, or suffer from poor drainage. Taps need to be turned off properly after use to prevent wastage.

5.2 Water Treatment and Safe Storage

It is important that water used for drinking in the school is safe water. Safe drinking water means that it is free from pathogens such as bacteria, viruses and cysts, which can cause illness.

One way to ensure that water is safe is to undertake Point of Use (PoU) water treatment and Safe Storage. There are different methods that can be used,

including: boiling; filtering through a cloth with settling and decanting then chlorination or filtering through a ceramic bucket filter siphon filter or candle filter; use of bio-sand or other sand filters; solar disinfection and other methods.

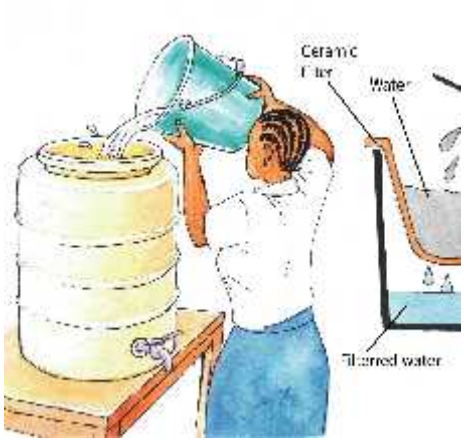

Figure 11 Ceramic Filter to treat Drinking Water

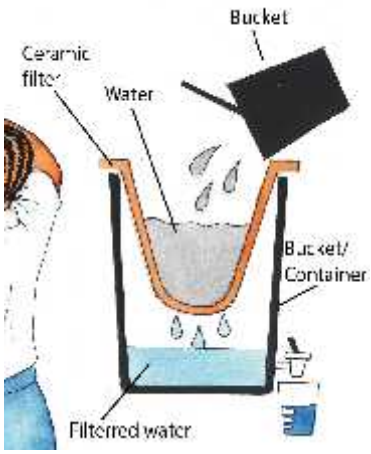

Figure 12 Cross section of a Ceramic filter

Figure 13 Boiling of Drinking Water

Once the water has been treated, or if it comes direct from a protected source, it is important to store it in a safe storage container, which is cleaned regularly and kept covered. The container used for drinking water should not be used for any other purposes, and it is recommended to have a cock/tap. Refer to the Toolkit 2 for further information on the different PoU water treatment and safe storage options.

5.3 Sanitation Options

5.3.1 Basic/ Simple Latrine options[4]

a) Improved Pit Latrine with squatting slab: Generally, a latrine has three parts: pit, floor and superstructure. The improvement referred to the provision of impervious floor slab namely squatting slab. The squatting slab needs to ensure hygiene and (child) safety. Though a variety of smooth materials is possible (e.g. PVC, ceramics), the slab is often made of concrete materials and can be pre-casted in a plastic mould that gives an attractive shape and smoothness of the slab. It can also be constructed using a wooden frame. The slab can either be reinforced or not (if it is a domed slab). It needs to have the following key features: washable surface, drop hole cover that fits tightly against smell and flies and has a handle, foot rests, small drop hole (28cm x 14cm) which provide safety to all users including children. The pit is preferably a circular shape, because this provides best prevention against collapsing of the pit. In most cases, lining of the pit is recommended, which could be done using burnt bricks, cement blocks, rock stones, trapezoidal blocks, woven wood or plastic food sacks with soil or other locally available materials.

Potential problems: Poor quality of the floor slab due to inappropriate materials, improper ratio and curing may lead to reduced strength. Rough surface of the slab can be caused by inadequate shaking of concrete and inadequate water ratio during casting. Rough surface of the slab makes cleaning more difficult and the slab can remain soiled.

Areas of use: Improved Pit Latrine with squatting slab are not suitable for areas with high ground water levels or areas prone to flooding, areas with bedrock near surface or densely populated areas where each household has its own well which makes it difficult to maintain an adequate distance between latrines and wells.

[4] **Technical options presented in this section are based on the Ministry of Health's definition of Improved latrines**

Figure 14 Improved Pit Latrine for schools (no vent pipe)

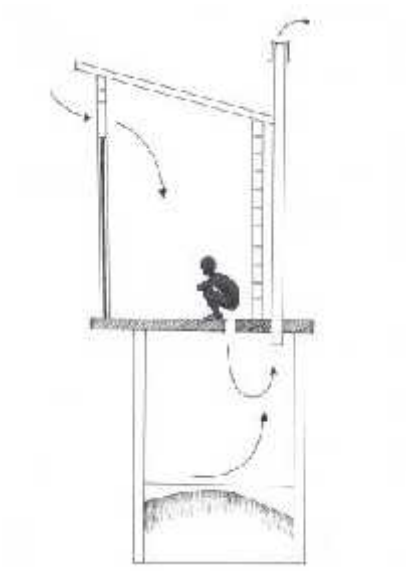

Figure 15 Ventilated Improved Pit Latrine

b) Ventilated Improved Pit Latrines (VIP latrines): VIP latrines are designed to reduce two of the problems frequently encountered by traditional latrine systems: the smell and the insects that can carry pathogens from inside the pit. A VIP latrine differs from a traditional latrine by the inclusion of a vent pipe covered with a fly screen. Wind blowing across the top of the vent pipe creates a flow of air that sucks out the foul smelling gases from the pit. This draft can be improved by using the sun to heat the dark-coloured pipe. As a result fresh air is drawn into the pit through the drop hole and the superstructure is kept free from smells. The holes in VIP latrines should therefore never be covered. The vent pipe also has an important role to play in fly control. Flies are attracted to light and if the latrine is suitably dark inside they will fly up the vent pipe to the light. They cannot escape because of the fly screen, and so they are trapped at the top of the pipe until they dehydrate and die.

Potential problems: VIP, as other pit latrines, has a risk of causing underground water pollution and the cost of construction is relative high as compared with improved traditional pit latrine due to vent pipe. It needs to be kept dark as a result children may be afraid to use the latrine because of the dark or out of fear of falling into the pit. The fly screen requires regular checking and replacement and the toilet does not control mosquitoes. Odour problems may occur during the night and early morning hours in latrines relying more on solar radiation for the air flow in the vent pipe than on wind speed.

Areas of use: It is suitable in areas with a low water table, in rural and urban areas.

c) Double Vault Latrines (two alternating pits, also called "twin pit" latrines): The double vault latrine has two shallow pits, each with their own vent pipe but

under only one superstructure. The cover slab has two-drop holes, one over each pit. Only one pit is used at a time. When this one is full, its drop hole is covered and the second pit is used. After a period of at least one-year, the contents of the first pit can be removed safely and used as a soil conditioner/fertiliser where culturally acceptable. The pit can be used again when the second pit has filled up. This alternating cycle can be repeated.

Potential problems: Similar problems like the VIP latrines may occur resulting from poor workmanship or poor quality materials. In addition, leakages between pits can occur because the dividing wall is not impermeable or the soil is too permeable. Double vault latrines are slightly more costly in terms of the *initial investment* than the options described above, but may be more cost effective in the long run.

Areas of use: Both VIP and double fault VIP latrines are particularly suitable for areas of water scarcity. Building the twin pit latrine has the added advantage of continuous use of the latrine versus other latrine that would be temporarily out of service when the pit needs emptying.

Figure 16 Double Vault VIP Latrine

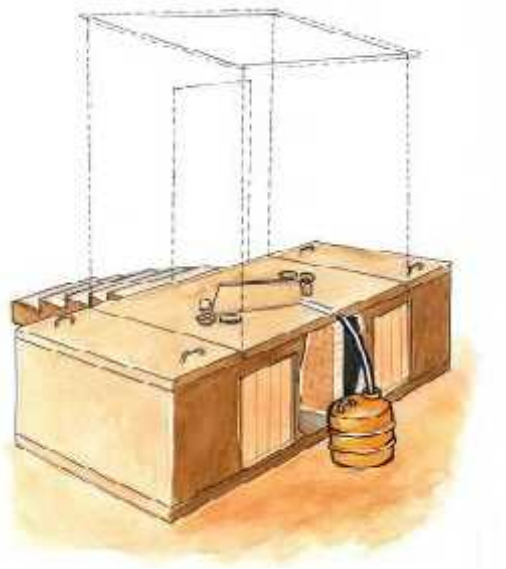

Figure 17 Ecological Latrine or Double Vault Compost Latrine

d) Pour Flush Latrines: This water seal latrine eliminates entry of odour and prevents rodents flies etc. Broadly two types of pour flush latrine can be distinguished: with "direct" or "off-set" pits. The direct latrine is similar to simple pit latrines, but instead of having a squatting hole in the cover slab, there is a squatting pan with a water seal. In the simplest type, excreta falls into the latrine pit by flushing with a small quantity of water where the pit is directly below the

latrine pan and slab. In the off- set pour flush latrine the pit is slightly away from (usually behind) the latrine. This type is easier to empty and could be connected to a septic tank or a small-bore sewer system at a later stage. In order to minimize the amount of water to be used (typically 1.5 – 2 liters_), the connecting pipe is always laid at a slope of 1:30 and finishing surfaces are smooth.

Like the VIP latrine, the off-set pour flush latrine can also be constructed with twin-pits that can be used alternately.

Potential problems: Water or flushable materials for anal cleansing is required. Non-flushable materials (newspaper, corn cob, leaves, etc.) should not be used, in order to avoid clogging of the system.

Areas of use: It is most suitable for areas where there is a sufficient and regular supply of water.

Figure 18 Pouring water into a Pour Flush Latrine

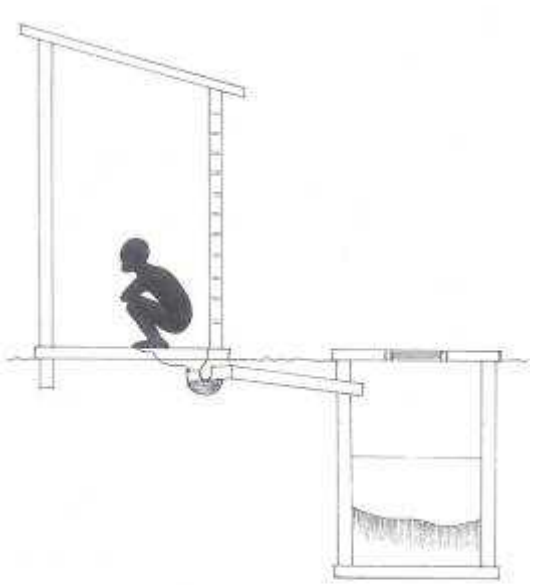

Figure 19 Pour Flush Latrine section

5.3.2 Advanced Latrine Options

a) Ecological latrine or double vault compost latrine: The double-vault compost latrine consists of two watertight chambers (vaults) to collect faeces. Urine is collected separately as the contents of the vault have to be kept relatively dry. See Fig 18 for the concept. Initially, a layer of absorbent organic material is put in the vault and after each use, the faeces is covered with ash (or sawdust, shredded leaves or vegetable matter) to deodorize the faeces, soak-up excessive moisture and

improve Carbon/Nitrogen ratio, which ensures that sufficient nitrogen is retained to make a good compost. When the first vault is three quarters full, it is completely filled with dry earth and sealed so the contents can decompose anaerobically. The second vault is used until it is three quarters full and the first vault is emptied by hand, and the contents are used as compost. The vaults have to be large enough to keep faeces for at least a year in order to become pathogen free. The superstructure is built over both vaults with a squat hole over each vault that can be sealed off. Urine is an excellent fertilizer that is generally safe to use and can be applied to plants diluted with water. The latrine can be built anywhere as there is no pollution coming from the watertight chambers to pollute the surroundings. Where there is rock or a high water table, the vaults can be placed above ground.

Potential problems: Proper operation needs full understanding of the concept. This is often lacking and as a result, for instance, contents are left too wet, making the vault difficult to empty and malodorous. In most cases, special effort will be needed to convince people about the use of the excreta. Where people are willing to use the contents as fertiliser/ compost, they may not allow sufficient time for the contents to become pathogen free.

Area of use: Ecological latrines are constructed above ground; therefore they are suitable for densely populated areas where the risk of ground water pollution from pits to drinking water sources is high. It is also suitable for areas where the water table is high, such as flood plains or coastal areas, because the above ground chambers will ensure protection from rising water in pits and ground water pollution. This type of latrine is particularly suitable to areas of water scarcity or areas where people are willing to use human excreta as a fertiliser/ compost. Where water is used for anal cleansing, a special soak pit for diverting wash water will be needed to avoid the pit contents becomes too wet.

b) Flush toilet connected to septic tank or sewer: Flush toilets – also called water closets (WC) - are a hygienic way of human excreta disposal if properly used. It is similar to the pour-flush latrine, except that the excreta does not flush to a simple pit, but to a proper septic tank or sewer system. Since sewer systems are only available in a few urban areas in Tanzania, this option will not often be used, but should be encouraged where available because it avoids the need for pit or septic tank emptying. Septic tanks are more costly than the pit latrines described above, but are a better option in terms of potential contamination of the surroundings, e.g. nearby water sources. Considering the cost of septic tanks, it would probably only be an option in larger schools or in locations where ground water contamination is a concern.

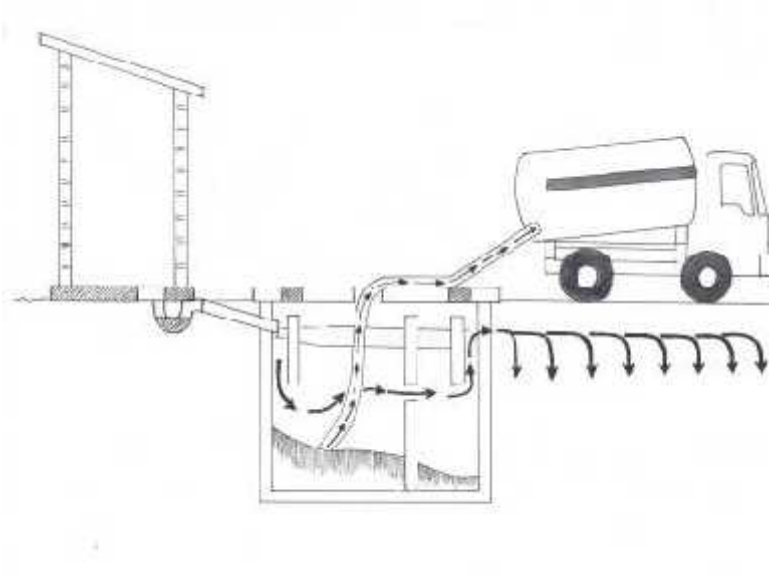

Figure 20 Pour flush to septic tank

Potential problems: Similar to pour flush this option is limited to be constructed in areas with sufficient and regular water supply. It is unsuitable in areas where solid anal cleansing materials are used.

Areas of use: It is most suitable for areas where there is a concern for ground water contamination from soak pits, amongst others for schools with a large number of students. Availability of emptying equipment (such as tanker trucks with suction equipment) in the vicinity is another important consideration for deciding on this option.

c) Biogas-latrines: In biogas latrines the excreta is collected in a special kind of septic tanks, which serve as bio-digesters. In the bio-digested, an anaerobic process takes place that produces biogas and digested slurry. While biogas can be used for energy purposes (such as light or cooking gas), the slurry can be applied on soils to improve fertility after it is left to settle for sufficient time to allow pathogens to die out.

Potential problems: It is relatively expensive when compared to other on-site sanitation options and requires speciliased technical expertise to construct. Due to cultural reasons there may be community resistance to use human excreta sludge and biogas for soil fertilization and cooking respectively. In addition, for optimal bio-gas production, often human waste needs to be mixed with other organic/ agricultural waste, which may pose a challenge in the school context.

5.3.3 Urinals

Urinals for girls/women as well as for boys/men have been used with success in different countries. Urinals are cheaper and quicker to build and easy to use for young children. Urinals help to reduce congestion or minimise the time for

queuing up during peak/break-time. A precondition to keep them clean is the availability of a reliable water supply.

Figure 21 Boys Urinal

Figure 22 Girls Urinal

Important design issues:

i. The wall and floor should be smooth plastered and properly designed to protect against splashes.

ii. The floor and walls must be made from smooth and non slipperly washable materials for keeping them clean.

iii. Girls' urinals should have privacy for effective use by girls.

5.3.4 Accessibility for Adults and Children with Disabilities

In each school, at least two latrines one for girls and one for boys should be accessible for children with disabilities. A range of technical designs and options (from low cost to medium and higher cost) is provided in Toolkit No 2. In general, designs of latrines for adults and children with disabilities should take into consideration the following issues:

i. **s**afety, convenience and ease of access**;**

ii. ease of use by users without undue effort;

iii. diversity to meet the needs of users with different disabilities.

If accessible designs are taken into account during the conception phase then additional costs relatively small and outweigh the costs for adapting facilities at a later stage. Access for persons with disabilities means, however, more than ramps and wide doors. It should also take into consideration:

i. **Proximity:** The maximum distance from the classrooms to the facilities should be less than 30m; and should be less if there are a larger group of users with mobility impairment.

ii. Approach **path**: The ideal width of a path is between 120 -180 cm. Where the path is not on level ground a ramp with handrails (at 70 and 90 cm height) or curbs on both sides are needed. To ensure that persons with disabilities can reach their destination safely and without assistance, the slope of the ramp must not exceed 5% (1:20). Where space permits, both a ramp and steps should be provided. If only one option is possible, a ramp should get preference. If the slope is more than 10m long, a level platform halfway ("landing") is needed where users can rest. This is to be repeated every 10 m depending on the length of the ramp.

Figure 23 Handles and Handrails on Doors

Figure 24 Handrails and easily cleanable Seat

i. **Surface of path**: A firm, even, non-slip surface benefits everyone, not only blind persons, wheelchair and crutch users. It reduces accidents and is particularly helpful for people with poor balance or coordination. Concrete is durable but expensive. Locally available materials such as bricks/stones can also be used to provide a firm surface and prevent it from becoming muddy and slippery during the rainy season.

ii. **Doors**: A level platform (landing) is needed immediately outside any door so that users can open the door without their wheelchair rolling backwards or can stand on crutches without losing their balance. The platform must have a minimal length of 120cm. A handrail next to the door is useful for persons who are unsteady. This can be attached to the outside wall or fixed to the ground. The door should have a grab bar to allow easy opening. The minimum door width is 90 cm.

iii. **Floors:** Floors should be even and smooth for easy cleaning but not so smooth that the floor will be slippery when it is wet. The floor should not be too rough as it will hurt people who crawl.

iv. **Sign:** A brightly coloured visual sign on the door (e.g. the international disability symbol) can be used to differentiate disability facilities to others and to restrict use. The size of the sign should be big enough to be

seen by people with poor vision .The sign should be located at eye level (150 cm).

v. **The size of the toilet:** The size of the toilet room should be large enough to allow for a 150 cm turning cycle and have a space of at least 80cm besides the toilet to allow parallel positioning for easy transfer from wheelchair to the toilet seat. Hand rails have to be placed at 70 and 90 cm heights and can be attached to the floor or walls. If water is available it should be placed within reach from the toilet at 50 cm height.

Drops hole/squatting slab/seat: People with physical disabilities may have problems squatting and hence a seat can make a latrine more accessible. The seat with a hole carved in the seat, can simply be placed over the squat hole. This will allow the latrine to be used when there are no disabled pupils. Also concrete blocks can be used to construct a permanent structure; this is suitable to the schools for pupils with special needs/disabilities only.

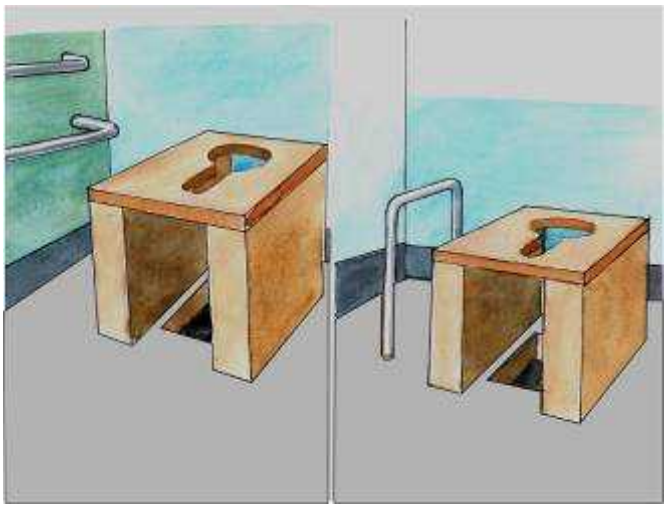

Figure 25 Concrete block and Wooden Seat with Handrails

Figure 26 Moveable Seat over drop-hole

Issues for blind and visually impaired people in schools: Blind and visually impaired people need to find their way using their remaining vision or judgement; signalling the edge of a step or entrance is helpful. This can be done by using bright colour paint or a change of floor texture as a blind person can feel the difference with their feet or with a cane; another way is the use of permanent structures as "landmark" (e.g. buildings, trees), or have a tactile guiding system, for instance with sticks placed in the ground. A safety rail is recommended on paths where a wrong step could result in a fall such as next to a pond or on a steep river bank. Persons using the tactile guiding system need to be oriented with assistance before they can move around independently.

5.3.5 Designing Latrines for Pit Emptying

All latrines should be designed to allow for the pits to be emptied when they have filled up. This means they need an opening that allows emptying by suction tanker, sludge gulper, or emptying by hand. Also there needs to be enough space to get a suction tanker near enough to the pit to be able to get the suction pipe in to the pit sludge. If there is not enough space for a suction tanker then a portable sludge gulper can be used.

Important considerations:

i. There is a need to know where the pit contents can be disposed of – this information can be obtained from the local government authority or municipal council.

ii. Care must be taken to ensure safe handling of the sludge and those involved must wear protective clothes and practice good hygiene.

iii. Community awareness and mobilisation should be undertaken for regular pit emptying.

iv. In most soil conditions, pits that are to be emptied will need to be fully lined to ensure pit stability.

Figure 27 Emptying of Latrine using Gulper Pump

5.3.6 Solid Waste

Poor solid waste management in schools could cause many problems including clogging of pipes and drainage systems and the creation of breeding sites for flies or insects which contribute to disease spread. The following actions need to be taken: Make sure that there are dustbins/containers for solid waste in every classroom, each toilet block and in the school yard.

i. Waste from the classroom and from the school compound should be deposited daily in the designated school waste disposal facility or pit.

ii. When there is no organized system for waste collection in the local community, once in a few days, the waste should be disposed off either by burning (preferably in an incinerator/burning chamber) or if collected in a pit by covering with a layer of soil or sand.

Figure 28 Cleaning the environment and disposal of waste

Figure 29 Dustbin

The disposal/treatment methods of solid waste depend on the type and amount of waste generated per day from schools. Suggestion for disposal could include:

i. Paper waste can be buried or burned in an incinerator/burning chamber made from an oil drum.

ii. Organic materials can be composted, for instance in big cement rings or log boxes/containers, and used as fertilizers/soil conditioner for trees and plants in the school compound.

iii. Plastic waste can be collected and buried or recycled.

iv. Disposal through the Council/Public solid waste management system if this exists.

5.3.7 Disposal of Used Sanitary Materials

Used sanitary materials should be disposed of in a separate container located inside each latrine, and subsequently taken to be burned (unless a municipal collection system exists). Schools should provide either a drum incinerator/burning chamber or fenced off pit for burning of used sanitary materials, both of which will burn the pads to ash. Girls should be educated not to dispose used sanitary materials into the latrine pits as this might quickly fill up the

pits (in case of pit latrines) or block the system (in case of pour flush latrines). Given the need for privacy around disposal of used sanitary materials, the location of the incinerator/burning chamber or pit should be relatively close to the girls' latrine block so the dustbins with used materials can be carried for burning in a private manner. An even better option would be where the incinerator/burning chamber is an integral part of the girl's toilet, so the napkins can be dropped discretely inside the incinerator/burning chamber from inside the toilet. The incinerator and/or burning pit should be sufficiently fenced off and/or supervised so that there is no risk for children to burn themselves.

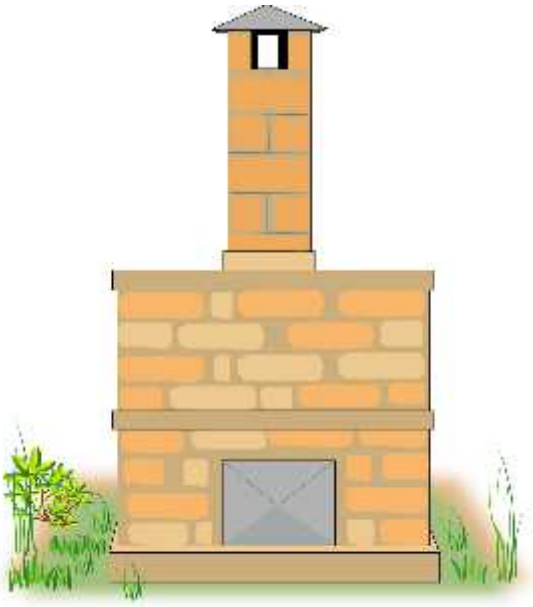

Figure 30 Single Chamber brick Incinerator/burning chamber

Figure 31 Drum Incinerator/ burning chamber for disposal of sanitary materials

Figure 32 Double Chambers bricks incinerator/burning chamber

5.3.8 Waste Water

In order to avoid the health of school children being affected by waste water that is stagnant or overflowing from water points, water tanks or septic tanks, there is a need to manage this properly. Simple soak pits, filled with gravel or pebbles, can be constructed for this purpose. Channeling the water to the school garden or a group of trees or bushes could be another good option that would go hand in hand with beautification of the school compound.

5.4 Hand-washing Facility Options

There are different hand washing facilities options; the simplest of which is a tippy tap also known in Kiswahili as Kibuyu Chirizi usually installed outside the toilets. This is a low-cost solution, easy to make at the school level with locally available materials. The drawback is that, it can only contain a small volume of water, so need filling regularly during the day. Another form may be a drum of water fixed with a tap and a soap dish. Unless running water can be made available, in all other options, the container has to be refilled with water by responsible users. All hand washing facilities should have drainage or a soakpit to prevent the area becoming muddy. Wastewater from a hand washing facility can be led through a drain into a garden area or tree nursery.

Figure 33 Tank with rainwater harvesting from a latrine roof provides a hand-washing opportunity

Figure 34 Tippy taps and liquid soap in bottle

Hand washing facilities need to be installed inside or near the toilet facilities and preferably also in the location where pupils have their lunch/ snacks to facilitate hand washing before eating.

Availability of soap and water at the hand washing stations will need adequate attention from the teachers and/ or School Management Committee. School Clubs can play a positive role in assisting in the proper use of the facilities.

6.0 OPERATION AND MAINTENANCE (O&M) OF SWASH FACILITIES

This section outlines simple tasks that need to be carried out routinely by the schools. For more detailed guidance on operation and maintenance of each specific option, see Toolkit No. 2 for Technical Options for School WASH.

6.1 Simple O&M for Water Supply Facilities

The section highlights O&M activities for some of the water supply options. Regular O&M is required to maintain well-functioning water supply facilities.

i. **Protected Spring:** Clean the areas uphill from the spring. Remove dead vegetation and repair the security fence. Repair damage and cracks in the apron and the drainage channel. Make sure the soak away is operational.

ii. **Shallow Wells with Hand Pump:** Regularly check and repair fence, repair damage and cracks in the apron and the drainage channel. Make sure the soak-way is clear and operational. Remove debris from the bottom of the well and deepen the well if necessary. Check seals and valves inside the pump and bearings in the upper casing, for rope pumps and put oil as a lubricant in bushes. It is advised to always refer to the manufacturer's operation manual. In case of risk of vandalism, pumps should be fixed with special locks for security.

iii. **Rainwater harvesting**: Clean the catchment roof and guttering. Replace broken or corroded gutters. At the start of each rainy season, empty the storage tank; remove silt and debris. Repair damage and cracks to the apron and drainage channel.

iv. **Boreholes:** Replace worn and damaged parts of the system and carry out disinfection after flushing or when contamination is detected. Carry out pumping test once the yield has gone down, if the water level is found to be lowered, increase the riser main, or in case of centrifugal pump lower further the pump. If a de-fluoridation treatment plant is used, ensure regular replacement of worn out parts including bone char. The O&M in this aspect should be done in consultation with the respective water department.

v. **Tap stands**: Replace worn and damaged taps. Repair damage and cracks in the apron and the drainage channel. Make sure the soak away is operational. Tap should be turned off after use to prevent wastage.

vi. **Small dam**: Ensure regular removal of silt, debris and vegetation from the dam and embankment, replace soil and re-compact the embankment, repair fence, and remove silt and vegetation from feed channel.

6.2 Simple O&M for Latrines; Urinals and Hand-washing Facilities

Latrines, urinals, and hand-washing facilities should be properly used and regularly maintained. Table 3 provides a number of suggestions for repairs needed in case problems occur.

Table 3. Operation and Maintenance of Latrines, Urinals, and Handwashing Facilities

Problem	Repairs Needed
Latrines	
Door broken or does not give privacy; hinges loose	Repair panels of door; put new hinges; grease them
Door cannot be locked from inside or outside	Inside: Make simple lock mechanisms using a metal staple/eye and catch/hook. Outside: Attach 2 staples/eyes (one door and wall) and buy padlock.
Cement plaster comes off the walls	Remove loose parts, clean and re-plaster with cement mortar.
Roof is leaking	Repair or replace damaged ceiling boards. Clean and re-plaster the roof with strong cement mortar (3 cm) or repair or replace damaged iron sheets on existing roof
Pit latrine: Cover slabs are broken or missing or has holes	Put new cement mortar or replace the entire slab
Pour flush or Water Closet (WC): Pan is broken	Replace the pan
VIP latrine: Ventilation pipe is broken	Install new vent pipe
For Dry pit latrines: Pits are full	Empty the pit by using bucket or scoop, and apply sludge to field/farm if sludge is safe.
For double-pit pour-flush latrines: Pits are full	Switch to other pit. Leave full pit for more than a year and the sludge will decompose anaerobically and then the sludge can be safely dug out.
Urinals	

Smelling	Clean at least twice a day with water and detergent powder using a soft brush with a long handle. Detergent powder can be sprinkled in the evening to be washed off the next day.
Clogging of drainage	When the urinal does not drain properly anymore, then it is most likely that the drain is clogged. Remove the sieve over the drainpipe and insert a flexible, thin stick to push the blockage through. This can also be done from the soak-away end. All solid waste around the urinal areas must be collected properly and disposed of in the school waste
Hand-washing Facilities	
Broken and worn out basins and drainage system	Repair and replace the basins and all worn out or damaged parts of the drainage system Ensure proper and regular cleaning
Damaged or worn out taps /corks and pipe fittings Hand washing tap not discharging water properly	Repair the damaged parts/fittings/ replace the tap washer or the tap Clean the tank and check the tap
Broken or damaged drains	Repair and replace drain pipes
Tippy taps Worn out containers and rope	Replace the worn out parts If vandalised replace the facility
Note: In order to avoid damages caused by improper use pupils need to be constantly reminded on how to use the facilities and regular monitoring and inspection is recommended.	

6.3 Organising Operation and Maintenance for SWASH

Previous sections reflect practical actions for addressing technical problems with facilities. Organising a system for regular O&M is essential for the sustainability of SWASH facilities. This section aims to provide guidance in organizing a structure for O&M in practice. It suggests a number of O&M methodologies, a format for an O&M plan, and arranging a SWASH fund are discussed.

6.3.1 Common methodologies

Methodologies for O&M of SWASH facilities may include:

- **Roster:** Groups of pupils take turns to clean the latrines or other facilities such as the kitchen and the school surroundings. This arrangement works well provided that it is considered fair by all pupils (boys/girls; no discrimination). The responsibility of preparing the roster is with the Health teacher and to share this with all pupils and other staff. The supervision can be done by the teacher on duty or the pupil leadership.
- **Assigning latrines to a class or group of classes**: This arrangement is practical where schools have adequate latrines and can assign specific latrines/block of latrines to a class or a group of classes, preferably the ones the pupils are using themselves. It is suggested to prepare a roster for all classes.
- **Hired cleaners/caretakers**: For schools which can afford to pay the costs of a hired cleaner, this is a simple and effective way to ensure proper maintenance and cleaning of SWASH facilities. However, it is encouraged for pupils to participate in cleaning activities.

The suggestions mentioned above are examples, but there should be place for other well functioning methodologies for O&M at schools. Teachers and schools are encouraged to be creative in developing other O&M mechanisms, which are applicable in the specific surrounding/schools. roster

It is important to note that for health and safety reasons, protective clothing (boots, gloves, masks, etc.) and suitable cleaning materials need to be provided. If pupils are responsible for cleaning of facilities, teachers, the pupil leadership, or the SWASH club need to supervise and monitor the work.

Figure 35 Operation and maintenance – cleaning latrines

6.3.2 Operation and Maintenance Plan

To ensure sustainability of SWASH facilities, schools need to have and use an O&M plan which will enable them to have a clear picture of resources needed, how to mobilize them, the responsibilities of each stakeholder, and the different tasks. This plan forms a basic structure for O&M arrangements. Table 4 is an example of an O&M plan. The teacher on duty, pupil leadership, and the SWASH club are the entities responsible to ensure the O&M plan is being developed and implemented.

Table 4. Example of an O&M Plan

Category	Activities	Coordinator/ supervisor	Responsible person(s)	Freq.	Resources
SWASH funds	Mobilizing O&M fund	School Committee, teachers	Parents/Communities and LGA	Quarterly	SWASH account/cash book
Monitoring	Internal monitoring	School Committee	School Committee, teachers, communities	Quarterly	Checklist internal monitoring (ToolKit 1C)

Category	Activities	Coordinator/ supervisor	Responsible person(s)	Freq.	Resources
Water supply	Cleaning drainage/soak pits and removing garbage around water point	Pupil leadership, SWASH club	Pupils (STD 3-7) All pupils for secondary schools	Daily	Brooms, brushes
	Checking for technical faults (for preventive maintenance)	Teacher-store keeper, teacher on duty	Local technician	Quarterly	Technical tools
Drinking water	Cleaning cups	Pupil leadership, SWASH club	Pupils	Daily	Water and soap
	Water treatment	Pupil leadership, health teacher, cook, SWASH club	Cook	Daily	Depends on treatment option (such as water guard, boiling, chlorination, etc)
	Cleaning water treatment utensils	Pupil leadership, health teacher, cook, SWASH club	Pupils under cook's supervision	Daily	Brushes, soap, water
	Cleaning the inside of water storage containers (for containers less than 5,000 Litres)	Pupil leadership, health teacher, cook, SWASH club	Pupils under cook's supervision	Daily	Brushes, soap, water

Category	Activities	Coordinator/ supervisor	Responsible person(s)	Freq.	Resources
Latrines and urinals	Sweeping floor and washing floor / slab	Pupil leadership, SWASH club, teacher on duty	Pupils	Daily	Broom, soap, water
	Cleaning walls	Pupil leadership, SWASH club, teacher on duty	Pupils	Daily	Brushes, soap, water
	Girls' changing room: empty and clean bin for sanitary pads, burn the pads	Health (female) teacher, Nominated Girl Pupil	Pupils	Daily	Soap, water, brush, sanitary bin
Hand-washing facilities	Check the functionality and the presence of soap and water	Teacher-store keeper, teacher on duty	Pupil leadership and SWASH club	Daily	Technical tools
	Removing garbage, draining/clearing pools/stagnant water, cleaning drainage/soak pits, ensuring that soap and water are present	Teachers, pupil leadership, SWASH clubs	Pupils	Daily	Dustbin, broom/brush, spade

Category	Activities	Coordinator/ supervisor	Responsible person(s)	Freq.	Resources
Solid waste management	Collect garbage from dustbins in all classrooms and offices. Dispose solid waste in waste collection units. The procedure of waste disposal in urban areas may be different from rural areas.	Teacher on duty, pupil leadership, SWASH clubs (Note: In urban area, School Committee to organise an external hired waste collector)	Pupils. (Note: in urban areas, it occurs the school hires a waste collector externally)	Daily (disposal of waste collection unit to disposal site of the city can be done weekly in urban areas)	Dustbins, broom, spade, wheelbarrow
	Separation of solid waste: separation of different types of solid wastes at the source for appropriate disposal (e.g. paper and organic materials for composting, plastics and non-biodegradable for reuse and recycling)	Health teacher, student leadership, SWASH club	Teachers and pupils	Daily	Separate dustbins for separate collections of waste

6.3.3 Establishing a School WASH O&M Fund

For sustainable School WASH, funding requirements for O&M of facilities need to be budgeted for and funding sources need to be identified and secured at the beginning of the school year.

Funding requirements for O&M depends on the specific needs and affordability by each school, and may include: salary for cleaners/caretakers (if applicable); water/drinking water bills (if applicable); drinking water treatment; buying soap for hand washing, protective clothing and cleaning materials (liquid detergent, brush, toilet paper, etc.). Alternatively locally available, cheaper materials such locally made detergents(for cleaning) or local brooms can be used. In addition, it is necessary to set aside a fund for repairing or replacement when required.

Schools should establish an O&M fund as explained above. One way of doing this for a school is to introduce a parent/community contribution for the maintenance of School WASH facilities in collaboration with the school committee and the village government. The school management together with the school committee can determine and propose an amount to be contributed by each parent/member of community at a certain frequency (e.g. monthly, quarterly, bi-annually etc.). The school committee is responsible for management of the fund, it will open a SWASH bank account or an existing account (e.g. a self-reliance account) can be used as long as funds for SWASH are being documented separately. In such a way, it is known how much money is available for SWASH. A cash book should be kept in order to document the contributions. At the same time, the committee will also keep a record of expenditures. Every quarter, a financial report/statement on the use of O&M fund is prepared, shared, and published by the school committee. This can be done through the school notice board, the village government notice board or any other convenient means. A report on the SWASH status and progress, including a budget and expenditure report should be shared during a school-parent meeting and quarterly village assembly meetings.

Communities are the main actor to contribute to the O&M fund, however, one could also think of other potential sources of funding:

- Community and/or private donations
- Contribution from the general school maintenance budget (the Capitation Grant)
- Contribution from the Village Government Development Grant
- Contribution from income generating (self-reliance) activities (such as schools that cultivate and sell crops).

7.0 SANITATION AND HYGIENE EDUCATION

The success of any School WASH intervention will not be determined by the number of constructed toilets, installed hand pumps or water connections built, but should be judged on what students practice. Knowledge that is not applied to hygiene behaviours practice, leads to failure.

This section provides guidance on the approaches and methodologies on provision of hygiene education to pre, primary and secondary school pupils considering the special needs of pupils with disabilities and girls in menstruating age. It also shares highlights of the themes that can be covered by teachers when teaching hygiene related subjects in their regular lessons. For more details on themes and guidance on lesson plans for hygiene education in schools, see Toolkit No. 3.

7.1 Effective Approaches for Hygiene Education

Sanitation and hygiene education methodologies and approaches should be relevant to pupils age, it should be interactive, participatory, child friendly and disability sensitive (equity and inclusion). Examples of such approaches that are commonly used in Tanzania include Child to Child (CtC), Peer Education and Life skills-based hygiene education.

These methods give pupils the opportunity to explore and acquire hygiene-promoting knowledge, attitudes and values and to practice skills that help them to avoid risky and unhealthy situations, and to adopt healthier life styles. The methods also give pupils a chance to experience, discover, create and construct their own knowledge. Pupils will also be given the opportunity to personalize the information and develop positive attitudes and values, as well as to practice new skills.

The choice and success of any approach used in hygiene education largely depends on the pupil's age. Below are examples of how the child's age and characteristics influence the choice of learning and teaching methods:

Physical: Children in the age range of 4 to 7 find it difficult to sit for a long time and will need a variety of activities involving frequent changes of body position. The child needs opportunities to run, jump, balance, etc. Children in the age range of 8 to 14 are still very energetic but are also able to sit still for a longer time. Therefore in hygiene class children can be asked to play pantomime games, write or listen to stories about hygiene and sanitation.

Cognitive: Children in the range of 4 to 7 years have short attention spans and can only concentrate on single elements at a time. They also need a lot of opportunities to speak with others and listen to good language. In hygiene class the teacher can tell a story, for example, on the effects of eating raw food. The story has to be simple, short and funny, and the teacher should allow children to comment and interpret at some point. Children in the age range of 8 to 14 years develop the capacity to see other points of view. This development helps the child analyse, understand and see logical relationships. For example, in hygiene class, the

children can be asked to organise and have a discussion that critically analyses a hygiene-related problem in the community and develops a number of solutions.

Social-emotional: In hygiene class small children can, for example, sing songs about how to clean themselves in the morning, during which they can act out the different behaviours. After this they can be complimented on their performance. Children in the age range 8 to 11 get embarrassed by physical displays of feelings and are sensitive to gender differences.

7.1.1 Life- skills Based Approach

This is an approach for hygiene education that seeks to combine the essential teaching of hygiene principles with the level of a child's development and experience of life at home, at school and in the community. Through participatory learning the children acquire knowledge, develop positive attitudes, and critically gain hygienic skills that enable them to improve their own lives and those of their families and communities. Unlike the traditional methods which tend to emphasize academic knowledge, life skills based hygiene approaches gives room to children not only to learn from the teacher but also from each other through playing games and working in small groups. It therefore addresses real-life applications of knowledge, attitudes and skills making use of participatory and interactive methods.

7.1.2 Child to Child Approach

This approach is designed to create awareness to pupils on all issues related to water, hygiene and sanitation and build their understanding and capacity to change their hygienic behaviour and influence change among other children, their families and the community[5]. It provides techniques to pupils on how to improve hygiene and sanitation at schools and how pupils can be involved effectively in solving sanitation and hygiene problems in their community

The approach involves training of specific teachers to work with children and includes activities such as plays, mimes (imitate), experiments, read health education focused poetry, and stories which are intended to convey or emphasize particular health themes. The approach also endeavours to promote school – community linkages through activities such as cleaning the environment – health cleaning campaigns where pupils use this avenue to pass health education messages to the community. Moreover, the CtoC approach can be used to establish student centred clubs, a SWASH club in this case. The main objective of a SWASH club is to nurture the quick learning ability and to raise their knowledge and skills in WASH. It can support pupils in changing SWASH conditions in their school.

[5] Reference: Mwongozo wa mafunzo mbinu ya Mtoto kwa Mtoto (kwa ajili ya wawezeshaji na wadau wa Elimu ya afya kwa mtoto); Concern worldwide & Hygiene Education in Zambia- Jean Rogers Ryan UNICEF New York, USA

However, a school can use existing clubs (such as the health club or the environmental club) in order to meet the objectives of the SWASH club.

7.2 Methodologies for Hygiene Education

In hygiene education, teaching and learning methods are determined by the learning objectives, the age of the pupils and the desired behavioural outcomes. These methods include:

i. **Stories:** telling stories with a gap. These can be true or imaginative stories about WASH experiences in the school and in the community.

ii. **Demonstrations:** These are carried out by showing the pupils good hygienic practices using real objects or resources and making them carry out the activity in return. For example, a pupil or teacher demonstrates how to wash hands correctly, how to explain about personal hygiene or telling a younger child about how to use a toilet.

iii. **Games and quizzes:** The teacher guides the pupils to play games that relate to WASH, e.g blindfolded hand-washing, true and false as a quiz. These are sources of entertainment and provide more fun in the learning process.

iv. **Songs:** This is where pupils sing messages which portray different hygiene practices. Songs have a positive influence on young children's cognitive skills such as spatial reasoning and memory. This is an easy and effective tool in communicating messages both to pupils and to the community.

v. **Role Play/Drama:** Pupils can act out situations for themselves in order to acquire communication and problem solving skills and understand situations more fully. They can also prepare a drama for the whole school or for the communities showing stories about the dangers of bad hygiene and advantages of good hygiene practices.

vi. **Puppet shows:** This is a form of theatre or performance which involves manipulation of objects which represent different themes or personalities.

vii. **Experiments:** This involves pupils carrying out practical tests such as on the importance of water with a wilted plant and effects of diarrhoea using a hollow gourd.

viii. **Exercises:** Pupils are given exercises which involve them to move around in order to draw their attention on sanitation and hygiene messages. At the end of each exercise, pupils are asked questions regarding the concept which they have worked on. Examples include: exercises on how germs are spread, organising pictures on how WASH-related diseases are transmitted and how the routes can be broken, an exploratory walk to identify risk factors for water and sanitation related activities, etc.

ix. **Posters:** teacher shows a poster that illustrates various hygiene problems and asks pupils to identify them. These can be used in support of a theme that the teacher is teaching.

x. **Role Models:** Clean, smart student, and applied best sanitation and hygiene practices should be recognized and awarded. This helps to encourage and motivate the other pupils.

In addition, a number of other useful teaching techniques are group discussion, brainstorming, field visit, case study, debate and individual assignments. It is suggested that teachers should use teaching aids that are locally available.

Figure 36 Experiment Exercise: Wilted plant

Figure 37 Demonstration: Hand washing with soap

7.3 Themes Designed for Sanitation and Hygiene Education

The best way to effectively deliver hygiene and sanitation education is by dividing the content to be taught into more specific themes and topics. These can be similar but with different content since the content has to be relevant to the particular class/grade being taught. The content of the themes and topics should be based on the assessment of diseases in the local area, attitudes and behaviours that are prevalent in various areas. For each theme, the appropriate content should include the knowledge intended to be delivered, and the attitudes and skills that need to be imparted to pupils in their different class levels from pre-primary level to standard six and secondary. The proposed themes in this guideline are proposed to be delivered in two major blocks; one covering Pre-primary to standard III and the other covering standard IV to standard VI (themes for secondary school pupils will be prepared in separate toolkit). The themes are the same but the content in the two blocks is different and they are shown in table 5:

Table 5. Major Themes for Hygiene Education

Theme	Level	Major topics
Water, Sanitation and Waste	Pre-primary to Standard III	• Water sources in the schools compound, • Water transportation, treatment, • Storage and handling at home and in the school, • Waste materials including human excreta, solid waste at home and in the school compound and in the community
	Standard IV to VII	• Similar to those above, yet, a more technical and detailed content
Personal and Food Hygiene	Pre-primary to Standard III	• Personal Hygiene, • Food hygiene, Eating Patterns and Water availability
	Standard IV to VI	• In addition to the above, also covers supporting older girls on how to look after themselves during menstruation
Water and Sanitation Related Diseases	Pre-primary to Standard III	• Incidence and transmission of diseases • Diarrhoea • Skin and Eye diseases • Malaria • Worm and Lice infestation • Areas Diseases due to Pollution of Water sources
	Standard IV to VII	• Similar to those above, yet, a more technical and detailed content
Water, Sanitation and Hygiene Facilities	Pre-primary to Standard III	• Basic Knowledge about Environmental Hygiene at home, in school and the community • Defecation practices at school, home and in the community • Operation and maintenance of school and household WASH facilities
	Standard IV to VII	• In addition to those for standard III, it also covers technical and managerial aspects of facilities at home and in the school

7.4 Special Needs for Pupils with Disabilities

For effective approaches in sanitation and hygiene education, the special needs and alternative modes of communication for pupils with disabilities must be considered. Some of these considerations include:

i. Modifying schedules, acquiring or modifying equipment, providing qualified.

ii. readers/guides, personal assistants or interpreters based on need.

iii. Providing information in alternative and accessible formats such as:

iv. Large print, Braille and audio messages for visually impaired and blind pupils.

v. Easy-to-understand written or graphic formats for children with an intellectual impairment.

vi. Sign language interpretation for deaf or hearing impaired children.

vii. Portraying persons with disabilities in the various materials and showing tools and equipment used by pupils with disabilities such as in and around the latrines and hand-washing areas.

viii. Making the facilities accessible to all children with disabilities.

ix. Considering the use of assistive devices such as wheelchairs, crutches, callipers and white canes when designing the WASH facilities.

x. Requirements for the pupils to understand the needs of the pupils with disabilities.

Figure 38 School Latrine With Access for Children With Disability

7.5 Education on Menstrual Hygiene Management

The management of menstruation hygiene by adolescent girls is also an essential component of sanitation and hygiene education. Although education on menstruation is delivered in the normal science lessons, details of how to manage menstruation is not part of the curriculum. The health teacher or the school matron should provide this education on how to manage menstruation to the girls in menstruating age outside the normal classroom setting. If possible, the school can invite a nurse from the nearby health facility to facilitate the discussion. This is because for adolescent girls to practice successful Menstrual Hygiene Management (MHM) in school, they need to feel supported by teachers, families and peers, and to have school environments that are conducive to MHM. The education on menstruation hygiene management should aim at enabling adolescent girls to:

- Understand the menstruation cycle, know the age ranges when adolescence begins and have a good understanding of emotional and natural body changes that result from adolescence.

- Know how to take care of themselves during menstruation period. For example, they should know the different types of sanitary materials (cloths and pads) which help them to feel safe and free during their menstrual days.

- Establish a coordination process on how to maintain both body and environmetal hygiene during their menstruation days at school. For example, girls should know how to dispose sanitary materials after use/how to clean and dry them.

Figure 39 Girls Hygiene Unit with Water and a Disposal Bin

Hygiene education on Menstruation Hygiene Management (MHM) should consider the following essential components for supporting girls:

i. Teacher sensitization, awareness and understanding of girls' monthly discomfort and/or need to use latrines more frequently than usual. Teachers should be discreet in their support as girls may only mention they feel unwell, without specifying that menstruation is the issue (due to local taboos or girl's shyness). This includes girls' possible hesitation to stand and respond to questions during class time.

ii. Female matrons, teachers or school administration should privately assure that all school girls have adequate monthly sanitary materials, and are not missing school or class due to insufficient supplies of sanitary pads or cloths. Girls may also need underpants and/or under shorts for comfort about preventing menstrual leaks during school hours.

iii. Making the school built environment appropriate for MHM, including adequate latrines with dustbins inside and locks on the door, nearby burning facilities, water for handwashing inside of latrines, and a private space for washing of menstrual stains and/or washing, drying and ironing used menstrual cloths (in a boarding school setting).

iv. Teaching and sensitizing boys about girls' need for privacy, respect and support during their monthly menstruation, to minimize teasing and mocking that may occur.

v. As appropriate, the referral of girls to a school nurse or matron for emergency sanitary material, for pain relievers, and a space for resting when menstrual-related discomfort is significant.

vi.

vii.

7.6 School WASH Assessment, Planning and Monitoring

This section explains about the implementation cycle for improvement of School WASH situation. It describes the necessary steps in the cycle which includes the School WASH assessment, planning and monitoring (Refer Table 1).

7.7 7.6.1School WASH Assessment

The objective of a School WASH assessment is to identify critical gaps in the current School WASH situation, as well as to identify the level of intervention needed in individual schools in a particular Council. A simple matrix with assessment indicators was developed to facilitate the assessment, see Toolkit 1A. This assessment should be carried out once a year. Schools can use the results of this exercise to prepare their annual plan and budget for WASH development. Findings from the assessment will help the central and local government in prioritised planning and budget allocation. It is a helpful tool to compare all schools in the council for example. It allows the LGA to identify the schools who have a better or a poorer SWASH situation. Moreover, School WASH assessment can be carried out by the school, the LGA, the central government, or NGOs and CBOs.

The tool uses simple assessment indicators that are based on the minimum standards jointly agreed by SWASH stakeholders. When completing the exercise of assessment, the results will lead to a distribution into the following four categories of performance:

Table 6. School WASH Assessment Grading

CATEGORY	PERFORMANCE	REMARKS
A	The existing situation and facilities are acceptable.	No improvement is necessary
B	The existing situation and facilities are reasonable but would benefit from improvement.	Action is not necessary a priority.
C	The existing situation and facilities are poor.	Improvement is required.
D	The existing situation and facilities are very poor or there are no facilities.	Provision of facilities is the highest priority.

7.7.1 7.6.2 Application for School WASH Assessment Grading

Since the School WASH intervention is a joint effort and initiative which involves a wide range of stakeholders, The School WASH assessment grading is inevitable for school prioritisation and planning. In order to ensure commitments of each stakeholder at all levels, the above assessment grading tools have been provided together with this guideline.

An application form (see Toolkit 1B) for School WASH intervention is to ensure that commitment of the community towards improving School WASH is secured. This tool serves as a contract between the community and other external stakeholders willing to join efforts in supporting it during the intervention. For example, it can be used in a situation whereby a school needs to be selected from many and determined to improve WASH situation.

7.8 7.6.3 School WASH Planning and Implementation

School WASH involves **participatory planning and implementation** at schools and community levels as well as at the general programme level. The purpose of this exercise is to allow the implementers to have a clear picture of activities to be implemented, responsible actors per activity, human and financial resources to be allocated for each school.

Several stakeholders active in School WASH (within a Council) should collaborate and coordinate their activities. Once objectives have been decided, an overall plan of action can be produced. Elements in plan of action can be;

- **Size of the programme and number of schools**: This section should give a rough idea of the number of schools or communities in the programme.
- **Human resources**: an overview of the key actors, their roles and responsibilities, and the amount of time they will need to spend on School WASH.
- **Main activities:** This section should include all activities that will be implemented in the programme.
- **Technology choices and their construction cost:** Indicative estimates are needed of the average costs or range of costs for different technologies.
- **Indicative timeline:** Timelines should not be too optimistic. At school level construction can start 6 to 12 months after beginning to work with the communities.
- **Resources required:** Budget proposal need to mention the required community contributions and contribution from other stakeholder's i.e LGAs. It is crucial to include funds for software i.e. hygiene and sanitation education, and monitoring.
- **Monitoring:** To monitor progress, a minimum set of indicators need to be defined and agreed upon.

Local Government Authorities and other School WASH stakeholders should support the communities during planning, implementation and resource

mobilization both from School level to National level, to ensure identified gaps will be covered successfully.

Toolkit 1C comprises of a checklist that can be used for planning and implementation of School WASH activities. It is also meant to follow up on the progress of different activities within School WASH implementation. Several activities within the different stages in School WASH implementation will need to be documented. The different components are: assessment, planning and budgeting, construction, operation and maintenance of facilities, hygiene education, and monitoring and inspection.

7.9 7.6.4 School WASH Monitoring

7.9.1 Relevance

Monitoring is the continuous assessment of the intervention and its progress with regard to the planned objectives, results, activities and means. Monitoring enables a stakeholder to review progress and to propose action to be taken in order to achieve the set objectives. Monitoring is relevant as it identifies actual or potential successes or failures as early as possible and facilitates timely adjustments to the operations.

In addition, regular monitoring is essential for a sustainable School WASH; mmonitoring is beyond collecting information to 'see how things are going'. It is meant to improve programmes and activities over the long term and involves checking, understanding the results and then acting to improve a situation.

7.9.2 7.6.5 Indicators and Frequency

Monitoring toolkits were developed as a part of this guideline, indicators are based on the minimum School WASH standard as agreed by School WASH stakeholders (see section 3 of this guideline). Toolkit 1D is meant for monitoring and inspection for external use,has two main objectives: first the results can be compared with the minimum standards in order to identify potential gaps. Secondly, the results of this exercise can be used to identify poor and good performing schools. In such a way, LGAs (and the central government) can get the complete oversight for all schools in a particular Council and know which schools need assistance. School WASH external monitoring needs to be carried out by Council officials at least twice a year. In addition, toolkit 1E provides a checklist for internal monitoring by school committees, communities, and teachers. Its purpose is to identify problems, plan and take action to correct them in a timely way. It is recommended to carry out internal monitoring at least quarterly.

Responsible Actors: The overall responsibility for external monitoring lies with the Council Water and Sanitation Team (CWST), the School Quality Assurance and Ward Education Coordinators.

The internal school monitoring could be the responsibility of: School Committees, parents/communities, teachers, pupils and other responsible actors (such as NGOs and CBOs).

Methodologies: Valid and cheap methods should be used for monitoring and inspection. Examples of these include: observing facilities, asking children about who uses toilets/urinals and if there are problems, using the checklist, examining an accounts book that records O&M expenses, talking with teachers about the use of teaching aids and materials, the suitability of the current hygiene education curriculum, and the need for retraining etc.

7.9.3 7.6.6Use of Monitoring Results

i. Develop an action list or follow-up plan in response to the situation if the monitoring information shows that there is a problem (What needs to be done? Who is responsible? What are the resources needed? When should it be completed). Refer O&M plan in section 6. Normally, action should be taken to improve the situation at the lowest level possible; if not the situation should be referred to higher levels (refer Table 2: Roles and Responsibilities of Stakeholders).

ii. Results from the monitoring and inspection can also form the basis for the annual planning and budgeting for SWASH improvement (e.g.: Rehabilitation of old/damaged facilities, construction of new facilities, purchasing more IEC materials and teaching aid for hygiene education, enrolling teachers for refresher training).

iii. LGAs can use the results as the performance-based criteria for funding allocation or to reward good performing schools, teachers, SWASH clubs or individual pupils as an incentive to encourage continuous efforts for SWASH improvement.

8.0 FINANCING THE SCHOOL WASH SUB-COMPONENT

8.1 Funding Sources

School water, sanitation and hygiene is a resource demanding sub-component which require joint efforts of stakeholders in improving it. The community should play a key role and lead in all the construction, behaviour change and proper use of the services. There are different sources which can be explored to finance it. The community being a key actor in the intervention should search for its own sources of fund. The government, through its annual budget, Development Partners General Budget Support or Basket Funds and other joint funding mechanisms including earmarked programs can support the community's effort. Other financing sources may include funding from international/local NGOs; faith-based organizations; the private sector private donations and school self reliance fund. Community contributions such as cash, labour and materials; and Council/Village/Mtaa Council own sources of revenue should be counted. All partners should share their budget for SWASH in a transparent manner, which is among pillars of OGP. This will ensure good planning, distribution and tracking of financial flows in the School WASH sub-component.

8.2 Criteria for School Selection and Fund Allocation

There is an enormous financial requirement to fill in the gap of School WASH facilities throughout Tanzania to meet the basic minimum standards. When there is an external support to improve the situation an incentive-based mechanism for prioritized school selection for fund allocation should be introduced. This mechanism contributes towards ensuring sustainability of the investment whereby the support can be directed to a school which has demonstrated;

- active community participation in project implementation,
- a good record of maintaining the existing facilities,

It also aims at stimulating schools to improve the maintenance of their School WASH facilities, however, schools with a poor O&M system might need capacity building on how to improve and organize better maintenance of facilitiesThe following will be among the criteria for prioritizing the fund allocation

8.2.1 Readiness and commitment of the community

Communities which are prepared and committed to improve School WASH are likely to obtain support from other stakeholders who are in the same course. Communities, Village Governments and the school committees should be able to show their commitments through: level of contribution either in cash, labour, and/or construction materials and establishment of an O&M fund as well as a clear plan for School WASH development as indicated in the assessment indicators of toolkit 1A.

8.2.2 Readiness and commitment of schools

School readiness and commitment are equally as important as that of the community and village government when seeking external support for funding. Schools can demonstrate their qualification for funding support by:

i. setting up a separate fund for School WASH (O&M) jointly funded and managed by community/parents, representatives/school committee;

ii. showing consistent performance and commitments to School WASH improvement (based on regular monitoring and inspection).

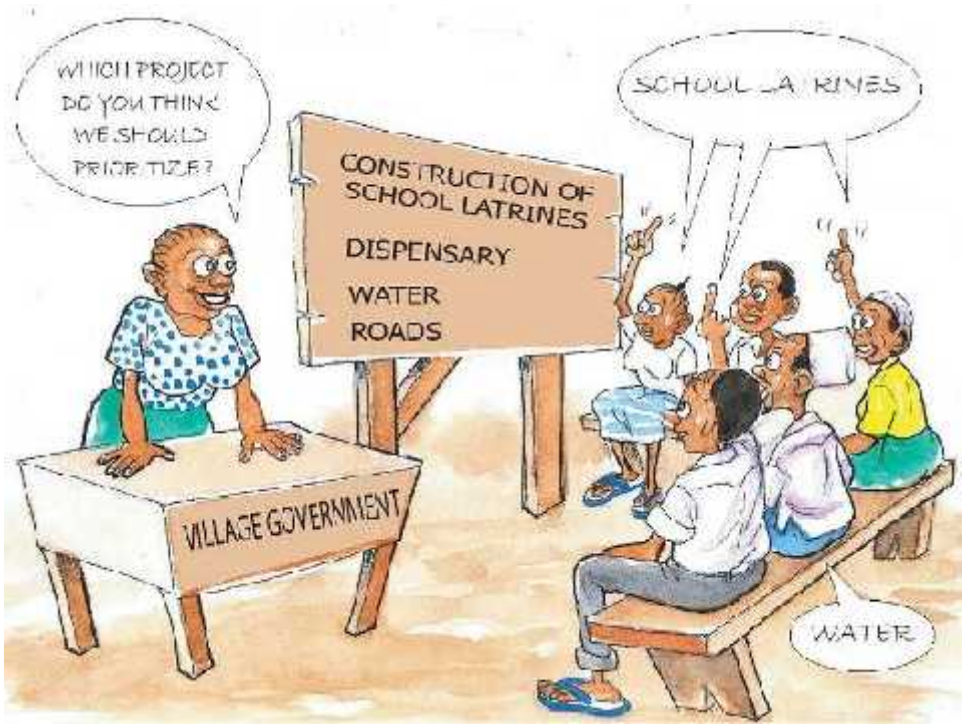

Figure 40 Community meeting discussing priorities

8.2.3 Existing School WASH situation

When schools have satisfied both conditions above, priority will be given to the schools where the needs are greater and schools located in the poorer or more remote areas or areas that have never received external funding before.

8.3 Mobilising School and Community Commitments

Commitment from schools and communities to improve the WASH situation is one of the key requirements for sustainable School WASH. Commitments can be in the form of social commitment (participating and supporting the various SWASH activities; formation of committees or social groups), financial commitment (physical contribution in cash or in kind, locally available materials or labour). In order to secure and sustain commitments, transparent and accountable mechanisms for reporting and financial management need to be established and put into practice effectively.

8.3.1 Social Mobilisation

Social mobilisation is the process of bringing together different actors in the community to raise people's awareness and understanding of a specific development program in an aim to win community support for the program, strengthen community participation for future sustainability and self-reliance[6].

Social mobilisation can be undertaken in the form of village meetings, public information meetings; or through various school activities, campaign or person to person meetings. The school committee in collaboration with the village government should lead in community mobilisation processes. The school committee and the village government will serve as the link between the school, external organisations and the communities; to mobilise and secure community's financial and social commitments, to make decisions on behalf of the community, to monitor the implementation of and provide feedback on the School WASH program.

[6] UNICEF/IRC 2009: Strengthening Water, Sanitation and Hygiene in School

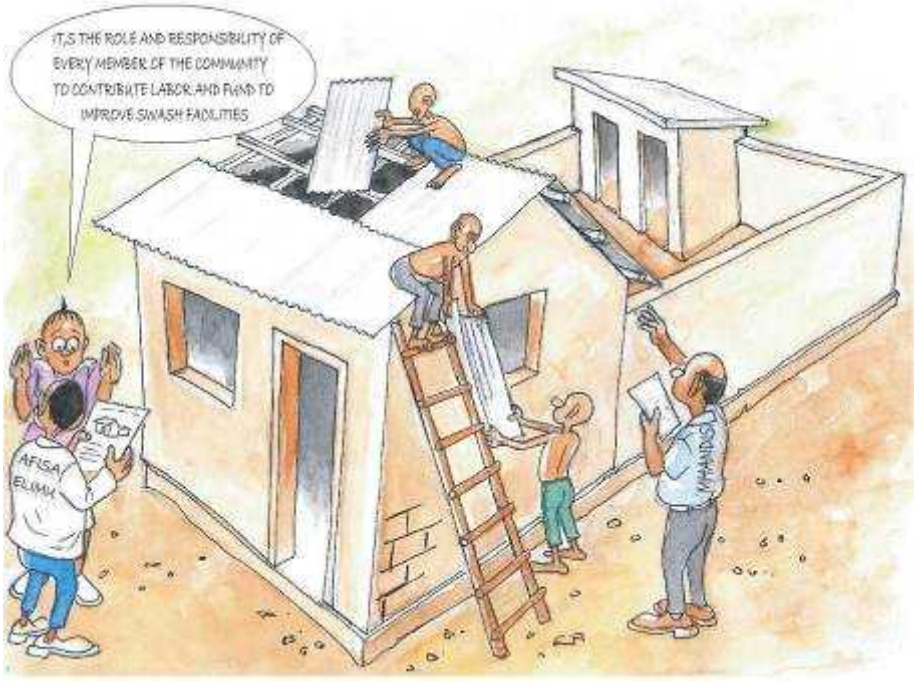

Figure 41 Community contributions to School WASH facilities

8.3.2 Financial and in Kind Mobilisation

Financial contribution from the community is an important indicator to gauge the community's commitment towards School WASH improvement. The community's willingness to contribute in cash or kind for construction of School WASH facilities indicates that they consider School WASH as one of their priorities and will be more willing to support the proper use and maintenance of the constructed facilities later.

The level of community contribution for SWASH facility development and SWASH promotion should depend on the local social economic situation. Examples of the contribution can be:

- Cash which can be collected for construction and or O&M of the constructed facilities or for buying soap on a regular basis.
- Labour which can include mason, construction supervision, digging trench or wells, arranging a roster to bring water to the school for hand-washing on a regular basis etc.
- Kind which can include readily available opportunities, Technical knowledge or expertise, construction materials (cement, sand, brick, etc) locally made or available materials (log of wood, clay tile for roofing) ; soap or other cleansing materials.

Figure 42 Discussing school budgets and expenditure

8.3.3 Financial Accountability and Transparency

In order to win the community's support and trust, all community contribution (cash, kind, labour or donation) and other financing sources must be well recorded and accounted for.

Financial reporting for facility development must be communicated with the local community either through village meetings or public notice boards. Warranty holder should be available to answer questions or concerns raised by the community on the use of funding.

Budget expenditure monitoring shall be strengthened and the warranty holder at all levels (School to National) is responsible for report preparation. For instance, a simple "income and expenditure" report should be prepared and informed to communities through the school and village notice boards or any other effective means of communication in the local community. In the bi-annual school communities meeting, SWASH should be one of the agenda points to be discussed. A SWASH financial report on income and expenditures is shared during the meeting, for approval by the communities. The school committee and teachers can take the opportunity to request to continue the contribution for the SWASH O&M fund.

Best practices obtained from the National School WASH Pilot, from which experiences and lessons have been used for the finalisation of this guideline can be consulted.

9.0 Glossary of Terms

Terminology	Description
Borehole	A borehole is a well that consists of a thin hole drilled into the ground and often it is lined with a pipe. The thin hole reaches the water under the ground and a pump must be used to pump the water to the surface of the ground for use. A borehole can be shallow from 20m or very deep such as over 100m deep particularly in dry land areas.
Composting toilet	A dry toilet into which carbon-rich materials are added to the excreta and special conditions maintained to produce inoffensive compost. A composting latrine may or may not have a urine separation device.
Environmental Health	Refers to all those factors in man's physical environment that exercise, or may exercise, harmful, damaging or detrimental effects on his/her physical development, health or survival.
Environmental health management	Refers to all those activities contributing to preventing and controlling those factors in the physical environment that can adversely affect human health including contaminated water, air and food as well as chemical exposure. This includes: disease control and prevention; water supply, sanitation and hygiene promotion; food safety; solid waste management; liquid waste management; pollution control (air, water etc); hazardous wastes management; occupational health; land use planning for human settlements; port health services; environmental related disasters, emergency preparedness and response; and inspection.
Environmental hygiene	Keeping the school environment clean in order to prevent disease.
Flush or pour- flush toilet / latrine	These toilets/latrines flush the feaces using water to piped sewer system, septic tank, pit latrine or cess pit. The water passes through a water seal which presents smell entering the toilet/latrine.
Food hygiene	Keeping food clean throughout the preparation chain in order to prevent diseases.
Hygiene	The method of using cleanliness as a method of preventing disease.
Hygiene education	The provision of education and/or information to encourage people to maintain good hygiene and prevent hygiene related diseases.
Hygiene promotion	The planned, systematic attempt to enable people to take action to prevent or mitigate water, sanitation and hygiene related diseases.

Terminology	Description
Improved sanitation	Facilities that ensure hygienic separation of human excreta from human contact, and can include: Flush or pour- flush toilet/latrine to piped sewerage system, septic tank, pit latrine, cess pits; ventilated improved pit latrine (VIP) latrine; Pit latrine with slab; Composting toilet.
On-site sanitation	The collection and treatment of waste is done where it is deposited. Examples are the use of pit latrines and septic tanks.
Open defecation	Includes defecation in the bush or field or ditch; excreta deposited on the ground and covered with a layer of earth; excreta wrapped and thrown into garbage; defecation into surface water.
Personal hygiene	Keeping the body clean to prevent disease.
Piped scheme	A water scheme where water is transmitted from one location to another via a pipe network. Water is dispensed from the piped scheme through a tap which can be inside a building our outside and shared by the community as a domestic point.
Pit latrine with slab	Is a dry pit latrine which uses a hole in the ground to collect the excreta and a squatting slab or platform that is firmly supported on all sides, easy to clean and raised above the surrounding ground level to prevent surface water from entering the pit. The platform has a squatting hole, or is fitted with a seat.
Point of Use water treatment and safe storage	The method used to treat water to make it safe for drinking and the method of storage to keep it safe from contamination before drinking. Various methods can be used such as boiling, chlorination, filtration, solar disinfection.
Protected water sources	Water sources that are protected from pollution (such as lining and covering a well, providing a drainage platform, or constructing a box around a spring)
Sanitation/ environmental sanitation	Is the hygienic means of preventing human contact from hazards of wastes to promote health. Hazards can be physical, microbiological, biological or chemical agents of disease. Subsets of this category are: i. safe collection, storage, treatment and disposal/re-use/recycling of human excreta (faeces and urine); ii. management/re-use/recycling of solid wastes (trash or rubbish); iii. drainage and disposal/re-use/recycling of household wastewater (often referred to as sullage or wastewater); iv. drainage of storm-water;

Terminology	Description
	v. treatment and disposal/re-use/recycling of sewage effluents; vi. collection and management of industrial waste products; vii. air and noise pollution; and viii. management of hazardous wastes including hospital wastes, and chemical/radioactive and other dangerous substances.
Shallow well	A shallow well is a hand-dug well which is usually dug by hand into the water table and is lined with concrete rings. A protected shallow well - has a lining, a cover, a drainage curtain and some form of lifting mechanism such as a pump or a bucket and windlass, all of which prevent contamination of the water in the well. An unprotected shallow well - will not be fully protected from contamination. Sometimes it is simply a hole in the ground and sometimes it may have a lining but not a cover, drainage curtain or a pump.
Solid waste management	The management of solid waste such as paper, plastics, tin cans, glass, grass, food wastes, sanitary towels and other solid wastes. Where possible solid waste should be separated at source and disposed of in different ways, for example, organic matter such as grasses and food wastes and paper can be composted; glass and tin cans can be recycled.
Spring	A spring occurs where the groundwater reaches the ground level and comes out from the surface. A protected spring - is one where the spring is protected above the spring through the prevention of farming and other activities and around the eye of the spring (where the water comes out from the ground) and the collection area. An unprotected spring - is left open and is not protected from contamination above or below the spring.
Traditional latrine	A latrine made with local materials such as poles, grasses, soil and thatch, which allow for the separation of faeces from humans, but which may need to be rebuilt regularly
Unimproved sanitation	Facilities that do not ensure hygienic separation of human excreta from human contact. Unimproved facilities include pit latrines without a slab or platform.
Ventilated improved pit latrine (VIP) latrine	A dry pit ventilated by a pipe that extends above the latrine roof. The end of the vent pipe is covered with gauze mesh or fly-proof netting and the inside of the superstructure is kept dark.

10 References

Caritas, Ethiopia (2010) 'Children's Hygiene and Sanitation Training (CHAST)'. Practicle Guide.

Donna Bailey, Hugh Hawes and Grazyna Bonati **(1992).**Implementing the Child-to-Child Approach .Published in London.

IRC & UNICEF (2004). Life skills-based hygiene education, A guidance document on concepts, development and experiences with life skills-based hygiene education in school sanitation and hygiene education programmes'.

Ministry of Education, Science and Technology(2008) 'Minimum Education Standards for Primary Education in Tanzania, July 2008' (final draft).

Ministry of Education, Science and Technology(2005) Science Pupil's Book 1, 2, 3, 4, 5, 6, for Tanzania.

Ministry of Education, Science and Technology(2016) Hygiene Education Materials for Primary Schools. Tool Kit 1 – 3. United Republic of Tanzania:

Ministry of Health, Community Development, Gender,Elderly and Children (2005) 'Mwongozo wa Mwezeshaji, PHAST: Minyoo na Kichocho' (PHAST for schools).

Nissen-Petersen, E (2007) 'Water from roofs, A handbook for technicians and builders on survey, design, construction and maintenance of roof catchments', Danish International Development Assistance (Danida).

Postma, L, Getkate, R & van Wijk, C (2007) 'Towards Effective Programming for WASH in Schools, A manual on scaling up programmes for water, sanitation and hygiene in schools', IRC International Water and Sanitation Centre & UNICEF.

Reed, R.A and Shaw, R. (2008) 'Sanitation for Primary Schools in Africa', Water, Engineering and Development Centre, Loughborough University, UK.

SNV, WaterAid, UNICEF (2010) School WASH Mapping Databook (unpublished).

United Republic of Tanzania (2000) 'Public Health (Sewerage and Drainage) Act 2000'. Tanzania Government Printers, Dar es Salaam.

United Republic of Tanzania (2009) 'Public Health Act, 2009, ACT Supplement, No 1, 20th March 2009 to the Gazette of the United Republic of Tanzania, No 12, Vol. 90, dated 20th March 2009'.

WASH Cluster Hygiene Promotion Project (2009) 'WASH Hygiene Promotion in Emergencies Training'.

WASH Cluster Hygiene Promotion Project (2009) 'WASH Visual Aids Library'

Zebrof, T (1999) 'Zimwi na Chanzo Kipya cha Maji'.

Zomerplaag, J & Mooijman, A (2005) 'Child Friendly Hygiene and Sanitation Facilities in Schools, Indispensible to effective hygiene education', IRC International Water and Sanitation Centre & UNICEF.

Appendix 1: Legal References on School WASH Facility Requirements

Official Documents	Pupil/drop hole ratio	No. of drop-hole and urinals per 2,000 pupils[7]	Other WASH related requirement
Public Health Act, 2009	No ratios noted – would need a regulation to be prepared		162 – 'A person shall not operate or manage a school within the Authority area unless that school or training institution complies with public health requirements as provided under section 163' 163 – 'The authority shall permit a person to operate or manage a school or any other similar institution when it is satisfied that: b) There are provisions for: ii) Safe and adequate water supply (iii) Adequate water closets or other sanitary accommodation facilities for staff, pupils and students vi) Adequate arrangements for collection, storage and disposal of solid and liquid waste (x) Provisions for people living with disability

[7] Assuming 50% boy and 50% girl

Official Documents	Pupil/drop hole ratio	No. of drop-hole and urinals per 2,000 pupils[7]	Other WASH related requirement
MoEST Minimum Education Standards for Primary Education in Tanzania, July 2008 (final draft)	• Toilets (ventilated pit latrines) are sufficient, clean, covered and separated according to sex at least 1 pit for 25 boys and 1 pit for 20 girls. • At least 2 pits for female staff members and 1 pit for male staff with urinal. • Urinals for boys (at least 1 for 50 boys) At least one toilet unit per school in teaching area and residential area for physically challenged pupils	Girls latrine = 50 Boys latrine = 40 Boys urinals = 20	• Existence of special room for girls. • Establishment of sanitation pads collection system • Existence of an incinerator/burning chamber • Availability of safe and clean drinking water at school. • School buildings equipped with gutters to collect rain water and drain it to tanks endowed with water taps • Existence of storm water channels to drain water from school compound • Existence of school electrical light • Disinfection of school at least once per term

Official Documents	Pupil/drop hole ratio	No. of drop-hole and urinals per 2,000 pupils[7]	Other WASH related requirement
Public Health (Sewerage and Drainage) Act 2000.	1. Sanitary accommodation shall be provided in the ratio of 1 to 10 up to the first 100 pupils/students/children, thereafter 1 drop hole for 25 pupils/students /children or fraction thereof 2. Where urinal accommodation is provided for males the number of drop holes may be reduced to half. 3. This guideline directs the provision of urinal accommodation for girl pupils/students and children. Hence, the number of drop holes may also be reduced to half.	**Girls:** • The first 100 girls = 10 drop holes. • The remaining 900 = 36 drop holes • A total is 46 drop holes. **Boys:** • The first 100 boys= 10 drop holes. • The remaining 900 = 36 drop holes. • Hence, total number of drop holes = 46. • With the provision of urinals only 23 drop holes will be required for boys.	

Official Documents	Pupil/drop hole ratio	No. of drop-hole and urinals per 2,000 pupils[7]	Other WASH related requirement
	4. Sanitary accommodation shall be provided in dormitories for boarding schools in the same ratios. Hand washing facilities shall be provided to each range of drop holes.		

Appendix 2: Water Supply Options for Different Conditions

Table 7. Water supply options advantages and disadvantages

Water Supply Options	Types	Advantage	Disadvantage
Rainwater Harvesting	Roof catchment	Technically feasible at schools, household level, and health facilities. Provides an option for storage of water.	Roof catchment option is supplementary rather than a permanent source of water. Dependant on rainfall; materials and size of roofing Initial cost could be high depending on the size of the system and materials used.
Shallow wells		Relatively low development cost Can be upgraded by installation of replaceable water extraction technologies. Low maintenance cost	Provides only a basic service. Can be easily polluted Often not perennial Water right depends on quantity and quality
Stand pipe (piped schemes)	Piped scheme	Suitable where there are public piped water supply system The ownership of the stand pipe can be with the school Maintenance can be done by the school community	More detailed planning is involved The system is managed and owned by different entity O&M costs can be high depending on the type of mechanization

Spring	Protected system	Low O&M costs Minimal interruptions in water supply, except if a seasonal spring	Spring catchments needs conservation Ownership and access could be difficult depending on location and if the water source is relied upon by the community
Boreholes		Produces safe water depending on the depth User friendly to children especially if hand pump is used	Has relatively high operation and maintenance costs Possibility to encounter saline water Requires expensive technical process
Small dams (charco dams)	Open source	Simple technology Easy abstraction of water	It requires large space Poor water quality that requires treatment The water is often available for a shorter period due to evaporation, seepages/percolations It may not be safe for pupils if they fetch water directly Can be a sources of water related diseases

Appendix 3: Latrine options for different conditions

Latrine type	Suitable for high ground water table	Suitable for flood prone area	Suitable for loose soils	Suitable for soil of low permab-ility	Water required	Ease of constr-uction	Ease of maint-enance	Capital investme-n	Remark
SanPlat latrine	Yes, if raised	Yes, if raised	Yes if fully lined	Yes	No	Easy	Easy	Low	Sludge unsafe
Single VIP latrine	Yes, if raised	Yes, if raised	Yes if fully lined	Not for clay soils	No	Easy	Easy		Sludge unsafe
Double VIP latrine	Yes, if raised	Yes, if raised	Yes if fully lined	Not for clay soils	No	Easy	Easy		Sludge safe if kept for adequate time
Single VIP latrine with pour flush	Yes, if raised and with soak away	Yes, if raised	Yes if fully lined	Yes with soak away	Yes	Easy	Easy		Sludge unsafe
Double pit latrine with pour flush	Yes, if raised and with soak away	Yes, if raised	Yes if fully lined	Yes with soak away	Yes	Easy	Easy		Sludge safe if kept for adequate time
Ecological latrine	Yes	Yes	Yes	Yes	No	Easy	Difficult		Sludge safe if kept for adequate time
Urinals	Yes	Yes, if raised	Yes	Yes	Yes	Easy	Easy	Very low	Urine to be collected