



Sanitation and Hygiene Guidelines

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SANITATION AND HYGIENE GUIDELINES

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Foreword

This guideline is developed in keeping with the Rural Water Supply, Sanitation and Hygiene policy and is the product of broad collaboration amongst the Public Health Engineering Division (Department of Public Health of Health Ministry), Comprehensive School Health Division (Department of Youth & Sports of Education Ministry) Religion & Health Project of Dratshang Lhentshog, UNICEF and SNV.

The guideline reflects the determination of relevant agencies to improve both the effectiveness of their assistance and their support to the stakeholders to achieve Sustainable Water, Sanitation and Hygiene for All.

Based on field experiences and current understanding of the country's development situation, this guideline is intended to provide basic technical guidance to the relevant agencies responsible for the development and implementation of WASH programs and projects particularly in rural communities, schools, nunneries and monastic institutions including public gatherings in the country.

It is envisaged that this guideline will immensely contribute to achieving the goal of universal access to improved Water, Sanitation and Hygiene to improve the lives of Bhutanese citizens.



(Dr. DORJI Wangchuk)
Secretary
Ministry of Health

1. Introduction

Rural Sanitation and Hygiene Policy strives to address the significant opportunities to reduce the incidence of disease and improve health in Bhutan by improving sanitation and hygiene practices in rural areas, schools, monastic institutions and nunneries and public places. A guideline would therefore provide valuable information on ways to bring about marked improvement in sanitation and hygiene in Bhutan.

With gross primary enrolment of 96%, school children form a significant portion of the population and represent future citizens, parents and teachers of the country. Every child spends a substantial amount of time in the school with Day scholar students spending an average of 6 hours each day and those in the boarding schools spending 9 months a year. A total of 13 years of their life including the critical development stages are spent in schools. It is, therefore, essential that their health be protected with the provision of safe drinking water, water for bathing, washing, cooking and also provision of good hygiene practices.

Further, one of the key policy priority of Dratshang Lhentshog as a Government Secretariat for the development of the clergy is to provide the Right to a clean Environment through a strategized plan of action that seeks to give accessibility to clean drinking water and proper toilet facilities together with dissemination of wisdom and awareness for a *clean and a healthy living habit*. With a total of about 7,027 monks registered under Central Monastic Body (*Zhung Dratshang*) and several unregistered monks, many private and community owned monastic institutions and nunneries also benefit from the interventions and assistance from Dratshang Lhentshog and Central Monastic body in joint collaboration with Ministry of Health and UNICEF.

With changing institutional roles and responsibilities for sanitation and hygiene in rural settlements, schools, nunneries, monastic schools and public places that have arisen from the decentralisation process, a guideline that can be used by all relevant stakeholders is being developed for planning, budgeting for and implementing water supply, sanitation, hygiene and public health initiatives.

2. Objectives

The objectives of this guideline are to provide guidance to:

- All the stakeholders in planning, designing, implementation, management and monitoring of the water, improved sanitation and hygiene facilities
- Ensure access to sustainable, adequate, safe and affordable water and sanitation services and adoption of safe hygiene practices.

3. Scope

This guideline focuses on rural settlements, defined as settlements other than the Class A and Class B Thromdes recognised as urban settlements. It also covers sanitation and hygiene in schools including day care centres, monastic schools and nunneries within the scope of Rural sanitation and hygiene policy. As envisaged in the Rural sanitation and Hygiene policy public places and large gatherings are also considered to be applicable for this guidelines.

This guideline recognises in terms of service delivery, hygiene and sanitation elements of public health that need to be carried out in collaboration with Ministry of Education ,Dratshang Lhentshug and Ministry of Works and Human Settlements and other relevant stakeholder in addressing preventative health and waste management issues.

4. Sanitation

Unimproved sanitation is a public health issue. Safe and improved sanitation will reduce the burden on primary health care costs, ensure safe and healthy environment for the well-being of all people. Sanitation improvement will reduce under five mortality and morbidity rates in children. Improved sanitation is defined as hygienic separation of human excreta from human contact. This includes no open defecation, toilets of good sanitary quality, not allowing access to animals (rodents or flies), and not contaminating groundwater and safe handling and final disposal of excreta if pits or tanks are full.

Guideline 1. Safe and improved sanitation facility: Improved sanitation facilities include pit latrines with cleanable slab and cover, Ventilated Improved Pit, Flush Toilets and Composting Toilets.

Key Indicators

1. Toilet facility

User	Facility	Ratio	Distance	Location
Households	Improved	One Per household	Attached to dwelling or inside house or within 10 mtrs	
Schools a.Day school b.Boarding	Improved	Girls 1:25 Boys 1:40	Attached or within 10 mtrs of academic block or hostel	
Monastic schools and Nunnery	Improved	Nuns 1:25 Monks 1:40	Attached or within 10 mtrs of academic block or hostel	
Public gatherings	Improved	Day gathering Men 1:300 Women 1:200 Dwellers Men 1:40 Women 1:25	30 mtrs from main gallery 10 mtrs from dwelling	Away from prevailing wind direction

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2. Hand washing facility should be placed within 10 mtrs from the toilet.
3. Toilet should be maintained hygienically with toilet cleaning and anal cleansing materials.
4. Schools, nunneries, monastic schools and public gatherings should have cleaning roster and Operation & Maintenance records.

Guidance notes:

1. Toilets should be located strategically that ensures safety, convenience and privacy at all times. Usage and cleaning is easier when located nearby.
2. Placing hand washing stations with water and soap at all times will encourage hand washing practice.
3. Toilet pits/septic tanks should be emptied safely, to avoid overflow and prevent public health risks.
4. To ensure that there is no contamination from toilet pits/septic tanks refer appendix.
5. Toilet ratios for schools, nunneries, monastic schools and for public gatherings have been proportioned to ensure optimum usage with reasonable queuing time and also to provide women and children with sufficient time to use the facilities.
6. Toilets should be provided separately for male and female users. A changing room for menstrual hygiene management should be provided for female users.
7. Maintaining a cleaning roster will ensure toilets are kept clean and hygienic.

People with disabilities, elderly and children should also be able to access the sanitation facilities with ease and minimal support.

5. Hygiene

Hygienepromotion is a systematic approach to change people's behaviour and to enable people to take action to prevent water, sanitation and hygiene related diseases. The goal of hygiene promotion is to move people from their current practice to adopt a desired behaviour.

Guidelines 1. Hygiene promotion Regular hygiene promotion at the household level should be carried out by Health Assistants and village health workers. School health coordinators and the management in schools, nunneries and monastic schools should promote hygiene daily in their respective institutions.

Key Indicators

1. Hand washing with soap "Before Eating", "Before cooking", "Before feeding a baby", "After using a toilet" and "After Changing Baby diapers" is practised.
 2. Regular bathing, brushing, nail clipping and washing clothes are followed in households, schools, nunneries and monastic schools. Boarding students regularly wash and dry their beddings.
 3. Bathing cubicles in schools, nunneries and monastic schools are provided in sufficient numbers. Separate cloth washing area is provided.
 4. Minimum of 1:20 Hand washing tap points is provided in schools, nunneries and monastic schools. All users including households have access to hand washing facility with soap available at all times.
5. Menstrual Hygiene
- i. Separate changing room with water, soap and sanitary pad disposal facility is provided in schools, nunneries and public gathering.
 - ii. Sanitary napkins /pads are readily accessible in households, schools, nunneries and public gathering.
 - iii. Menstrual hygiene management education provided to households, schools, nunneries and public gathering.

Guidance notes

1. People, especially children imbibe good personal hygiene if put to practise regularly. Skin diseases, poor oral hygiene and fecal-oral transmitted diseases can be prevented.
2. Hand washing with soap can reduce diarrhoea by 44% and pneumonia by 23 %. It has immense potential to reduce health care costs and improve student attendance. Hence adequate number of hand washing facilities with soap is important.
3. Menstrual hygiene management will enable female students to attend classes regularly with pride and will empower women's participation in daily life with dignity.
4. Hygiene promotion in public gatherings should be actively promoted through effective communication medium. Public health risk is high in large gatherings and hygiene promotion should be given utmost priority.

6. Water supply

Sufficient and potable water for all is required to prevent water borne, water washed, water related and water based diseases. Water points should be conveniently accessible at all times to free women, girls, boys and men from the chores of water collection. Access to improved water source saves health care cost and improves socio-economic development such as improved school attendance and averted disease burden.

Guideline 1. Water quality used for drinking, cooking, personal hygiene, cleaning and laundry should be safe

Key Indicators

1. Drinking water is free from fecal coliforms (0/100 ml).
2. Water is clear and odorless to encourage consumption.
3. Clean and clear water is used for bathing, laundry, hand washing and toilet flushing

Guidance notes:

1. Drinking water should be free from fecal coliforms (0/100 ml): In the absence of national drinking water quality standards, drinking water should meet WHO drinking water quality guidelines. Drinking water sources in Bhutan are sourced from spring and glacial fed rivers which are free from heavy metal and chemical contaminations. However, a simple chlorination is recommended for drinking water supply for large gatherings and community. Point of use treatment is recommended for consumption.
2. Clean and clear water should be used for bathing, laundry, hand washing and toilet flushing: Aesthetically clean and clear water is acceptable for common usage, however water for hand washing, bathing, cooking and dishwashing should be of drinking water quality.

Guideline 2. Water quantity: Sufficient water is available at all times for drinking, cooking, personal hygiene, cleaning and laundry

Key Indicators

1. The following table shows the basic quantity of water required:

Consumer	Quantity per capita	Reference
Households	45 liters per day	PHED standard
Schools a. Dayschool b. Boarding	a. 20 liters per day b. 65 liters per day	PHED standard and School Health Safety Guidelines, 2013
Monastic schools and Nunnery	65 liters per day	School Health Safety Guidelines, 2013
Public gatherings	15 liters per day	SPHERE standards
BHUs	500L / bed per day	PHED standard

Guidance notes

The indicated quantities for water usage cover water requirements for drinking, cooking, bathing, washing and sanitation, except for public gathering which is intended for drinking, basic cooking and hand washing only.

Guideline 3. Access: Users should have adequate and convenient water collection points

Key Indicators

1. Water facility

Consumer	Facility	Ratio	Distance	Location
Households	Tapstand	One Per household	Within 100 mtrs horizontal 25 mtrs vertical from house	On premises
Schools a. Day school b. Boarding	Tap point	a. 1:30 b. 1:20	Within 20 mtrs from Kitchen / Dining hall / toilet or academic block	
Monastic schools and Nunnery	Tap point	1:20	Within 20 mtrs from Kitchen / Dining hall / toilet / academic block or lhakhang	
Public gatherings	Tap point	1:250 @ 7.5 L per min	30 mtrs from main gallery, placed near public toilets and entrance points	

(Tapstand: It is a communal water point constructed to regulate the flow and to make it user friendly. In case of in-house/multi tap connection, number of tapstand is equal to tap point.

Tap point: Point in supply line before connecting to tapstand /in-house.)

Guidance notes:

Adequate number of tap points should be provided in schools, nunneries, monastic schools and public gatherings to ensure convenient access and minimize queuing time. Tap points should be conveniently close and at appropriate heights for different users.

People with disabilities, elderly and children should also be able to access the facilities.

7. Environmental sanitation (waste management and vector control)

Waste is generated by people of all ages; it comes from homes, schools, businesses, factories, and other places. If waste is not disposed of, major risks are incurred from fly and rat breeding and often blocks drainage channels and leads to environmental health problems associated with stagnant and polluted surface water. A proper drainage plan through site planning and wastewater disposal using small-scale, on-site drainage, should be implemented to reduce potential health risks to the population.

Guideline 1. Solid waste management: Waste segregation should be encouraged to reduce waste volume and safe disposal.

Key Indicators

1. Living space, hostels, classrooms, dining halls and kitchens are regularly cleaned.
2. Proper waste collection and separate waste bins for degradable and non-degradable placed at strategic locations and disposed off safely and timely.
3. Compost pit built within premises to dispose off biodegradable wastes.
4. Sanitary pads / napkins and baby diapers are properly disposed off.

Guidance notes

1. Dust and molds if not cleaned can cause ARI and allergies. Further in boarding institutions, unmanaged wastes can be a place for vector breeding grounds causing outbreak of diseases such as scrub typhus, fungal infections, scabies and other skin diseases. For cleaning of walls and floors, wet mopping with water and detergent if available is recommended.
2. Reduce, reuse and recycle the solid wastes. Public health risks can be reduced and income can be generated from recycled wastes.
3. Proper disposal of sanitary pads/napkins or baby diapers prevents scattering and scavenging acts by dogs and birds. Using re-usable sanitary pads and clothes can reduce waste volume.

Guideline 2.Drainage: Standing water and domestic waste water poses water pollution and health risks if not disposed safely. Drain and storm water should be properly drained to prevent erosion and stagnant water.

Key Indicators

1. Drainage from kitchens, bathrooms, tapstands and hand washing facilities are properly planned, built and maintained.
2. No stagnant water in the premises and storm water are properly drained out.

Guidance notes

Stagnant water causes vector breeding leading to diseases like malaria and dengue. Draining out waste water and storm water prevents erosion and washing up of debris into the premises. In water scarce areas, domestic waste water can be treated to reuse water for gardening and toilet flushing. Black water from household/schools/institutions and public toilets should be hygienically managed to prevent from draining into water bodies.

Guideline 3. Premises with proper footpaths and free of animal droppings.

Key Indicators

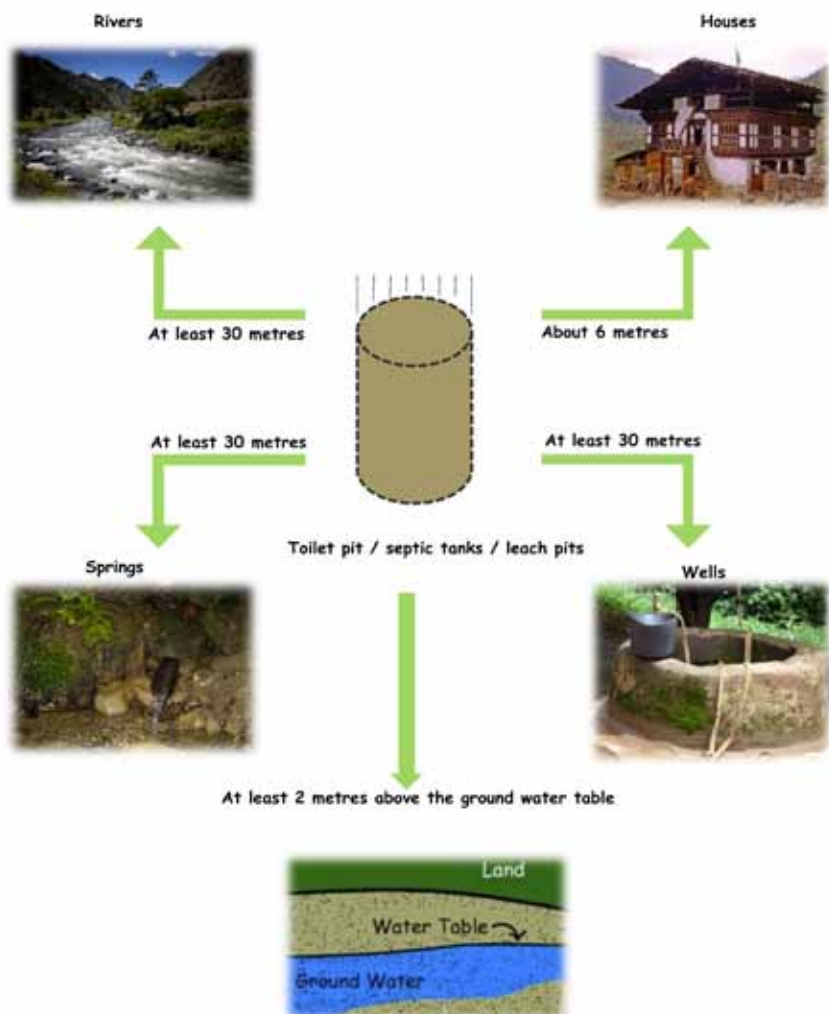
1. Premises footpaths are paved with stone soling / concrete / paver blocks.
2. Premises free of livestock animal and dog droppings.

Guidance notes

Paved footpaths can prevent muddy trails and reduce health hazards from contact with contaminated animal droppings.

Appendix

1. Minimum placing for Toilet / pit / septic tank location to prevent contamination



2. Public gatherings / places WASH requirements

Public gatherings refer to gatherings like *Tshechus*, *Dromchoes*, *Wangs*, *Moelam Chenmos*, *Duthroes*, *Tsachhus* and any other organized mass gatherings.

The following table shows the requirements for WASH in such public gatherings.

	Facility	Ratio	Distance	Location
Health dispensary	Counter	EMT at standby		
Waste bins	100 L Bins	1:10 per dwelling /stall 1:100 per person	Placed at convenient places Dumpsters located at convenient places, including near the toilets. Dumpsters emptied regularly.	
Water supply	Tap point	1:250 @ 7.5 L per min	30 mtrs from main gallery ,placed near public toilets and entrance points	
Toilet	Improved	Day gathering Men 1:300 Women 1:200 Dwellers Men 1:40 Women 1:25	30 mtrs from main gallery 10 mtrs from dwelling	Away from prevailing wind direction and water bodies
Hand washing facility	Tap points	1:250	10 mtrs from toilet 10 mtrs from dwelling	
Hygiene Promotion	Posters, announcements & communication materials	<ul style="list-style-type: none"> • Can be promoted by organizers through volunteer groups, Health officials and religious leaders • Assign janitors for regular toilet cleaning 		
Others 1.Dust control 2.Drainage	Water sprinklers and spraying from water tankers Proper drainage pipes and drain connections			

References

1. Sphere standards 2011 edition
2. WASH in low cost settings, WHO & UNICEF
3. WASH in schools manual, 2014
4. School Health and Safety Guidelines
5. Sanitation & Hygiene in Mipham Kabum Wang Field report, 2014.
6. Guidelines for Drinking-Water Quality, WHO 2004