

WASH Guidelines for field practitioners

PART 3 Hygiene



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Foreword

Malteser International is the worldwide relief agency of the Sovereign Order of Malta for humanitarian aid. With over 100 projects annually in more than 20 countries throughout Africa, Asia and the Americas, we provide emergency relief after disasters and support recovery efforts with a focus on sustainable development. For nearly 60 years, Malteser International has been standing by those in need – without distinction of religion, race or political persuasion.

Cooperation and participation are vital elements of our approach to humanitarian aid. Through a close collaboration with local communities, national and international partners as well as our public donors, we ensure our projects are sustainable and efficient. Transparency, accountability and the compliance with international standards of humanitarian aid are the fundamental basis for the quality of our programmes.

In order to provide a high-quality resource for our staff members and partners, so they can implement projects according to the latest recognised standards, Malteser International (MI) is in the process of developing a series of guidelines on its focus areas: emergency relief, health and nutrition, food security, water, sanitation & hygiene (WASH), livelihood supports and social programmes, and disaster risk reduction.

The WASH Guidelines for field practitioners, Part 3: Hygiene is jointly developed by the Malteser International health and WASH groups.

This close collaboration for the development of this hygiene guideline is logical, given the high impact and cost effectiveness of WASH interventions on the health status of the communities we are working with. The ultimate goal of water and sanitation interventions is to reach higher hygiene standards of the community, leading to less morbidity and mortality.

The collaboration between the health and WASH groups is also an opportunity to have a broader look at WASH as an environmental health topic. This guideline therefore also deals with topics beyond the typical water and sanitation interventions, like environmental hygiene and control of vector-borne infections.

For the health sector, involvement in hygiene improvement interventions opens up possibilities for a comprehensive approach beyond curative and clinic-based in line with the primary health care approach.

I authorise the use of the WASH Guidelines for field practitioners, Part 3: Hygiene, for application in Malteser International programmes worldwide.



Ingo Radtke
Secretary General
Malteser International

Clean Drinking Water

Drinking water must be free of colour, odour, taste, no chemical and harmful pathogen.



Always keep clean the drinking water storage pot, cover, cup with handle and cloth water filter.



It is the best to drink water after boiling & cooling down.

Water fetcher must practise personal hygiene



GOOD BEHAVIOUR FOR BETTER HEALTH

Clean Latrine

To become a sanitary & hygienic latrine, there must be 4 proofs (1/Privacy or shy proof, 2/ Fly proof, 3/ smell proof and 4/ availability of water or water access proof.



Keep the surrounding of latrine always clean



Federal Ministry for Economic Cooperation and Development



Malteser International
Order of Malta International

General Introduction

The Hygiene Guidelines should be used to direct project development efforts so that positive outcomes are maximised and negative outcomes are minimised. They have been developed with the objective of providing proven planning and design options, to Programme Coordinators and Project Managers, Engineers, Hygiene Promoters, and line managers working with Malteser International and its partner agencies worldwide.

Hygiene is a WASH component that has increasingly gained importance in recent years due to its proven effectiveness in improving health, particularly in the fight against diarrheal diseases and respiratory infections. Initially, WASH sector focus was more on “hardware” water-supply and sanitation components.

A shift in this tendency can also be noted from the fact that in the post 2015 Millennium Development Goals (MDG), goals towards improving hygiene will be introduced as well.

Malteser International (MI) is an agency that has traditionally been heavily involved in health sector activities, and continues to do so. Its commitment toward developing the WASH component was very much motivated by the strong contribution to improved health that can be achieved through WASH activities. In many Malteser International programmes that have a strong health component, hygiene activities can be the link between water and sanitation components and the wider health related programme. Hygiene behaviour change activities should therefore be strongly considered as an integrated component while planning health as well as WASH interventions.

Any change in hygiene behaviour is difficult to achieve, particularly in the short term, as it is a very personal matter and influenced by many cultural and social aspects. Hygiene should therefore be addressed simultaneously at different levels (household, community and schools) to increase its chance on success.

Interventions should have as a starting point the knowledge, practices and beliefs that communities have in relation to hygiene.

To promote sustainability of hygiene interventions, it is recommended that Malteser International programmes identify and assess existing (governmental) initiatives already undertaken in the programme area, and seek to link up with it where possible.

It should be noted that hygiene education alone has proven to be insufficient to triggering behaviour change related to hygiene issues. This led to situations in which communities had relatively good knowledge of hygiene issues, but were still not practicing it. Active hygiene promotion, together with an enabling environment and actions that encourage demand for an improved hygiene status have proven to be more effective in achieving better hygiene. This guideline therefore focusses on these key issues that trigger hygiene related behaviour change.



Handwashing with soap demonstration, Illeret, Kenya

Global Hygiene Goals

The current set up of the Joint Monitoring Programme (JMP) for WASH of UNICEF and the World Health Organization (WHO) is aligned with the Millennium Development Goals (MDG) which has 2015 as deadline. Given the importance hygiene has in the overall contribution that WASH can make to improved health, it was realised as a weakness that the “hygiene” component of WASH was not monitored at global level so far. Plans are now that for the post-2015 global WASH monitoring system, that likely will be aligned with the Sustainable Development Goals (SDG), a separate hygiene goal will be introduced for monitoring as well. The goal is still being discussed and not finalised yet. So far, three hygiene areas have been identified to be included for global monitoring during the period 2015 -2040:

- Handwashing
- Food hygiene
- Menstrual hygiene management

Additionally the issue of taking care of clean and safe drinking water will remain to be a key hygiene issue.

Draft hygiene goals:

“Hygiene (handwashing, food hygiene, menstrual hygiene management) will be universally recognised, promoted, and practiced as fundamental to good health, dignity and quality of life”

In preparation of the post-2015 global WASH goals, hygiene targets and indicators are currently being discussed by the global WASH community that aim at:

- Ensuring universal access to handwashing facilities, and monitor % of households, schools, health care institutions and birthing locations with functioning handwashing stations.
- Countries prioritising food hygiene in policies and strategies, and measuring percentage of lower and middle income countries that enforce international food safety recommendations in their child meal programmes.
- Improved food hygiene behaviour practiced by a significant proportion of the population

involved in food preparation and handling, and monitoring % of households that have running water into the dwelling and handwashing facilities with soap and water where food is prepared.

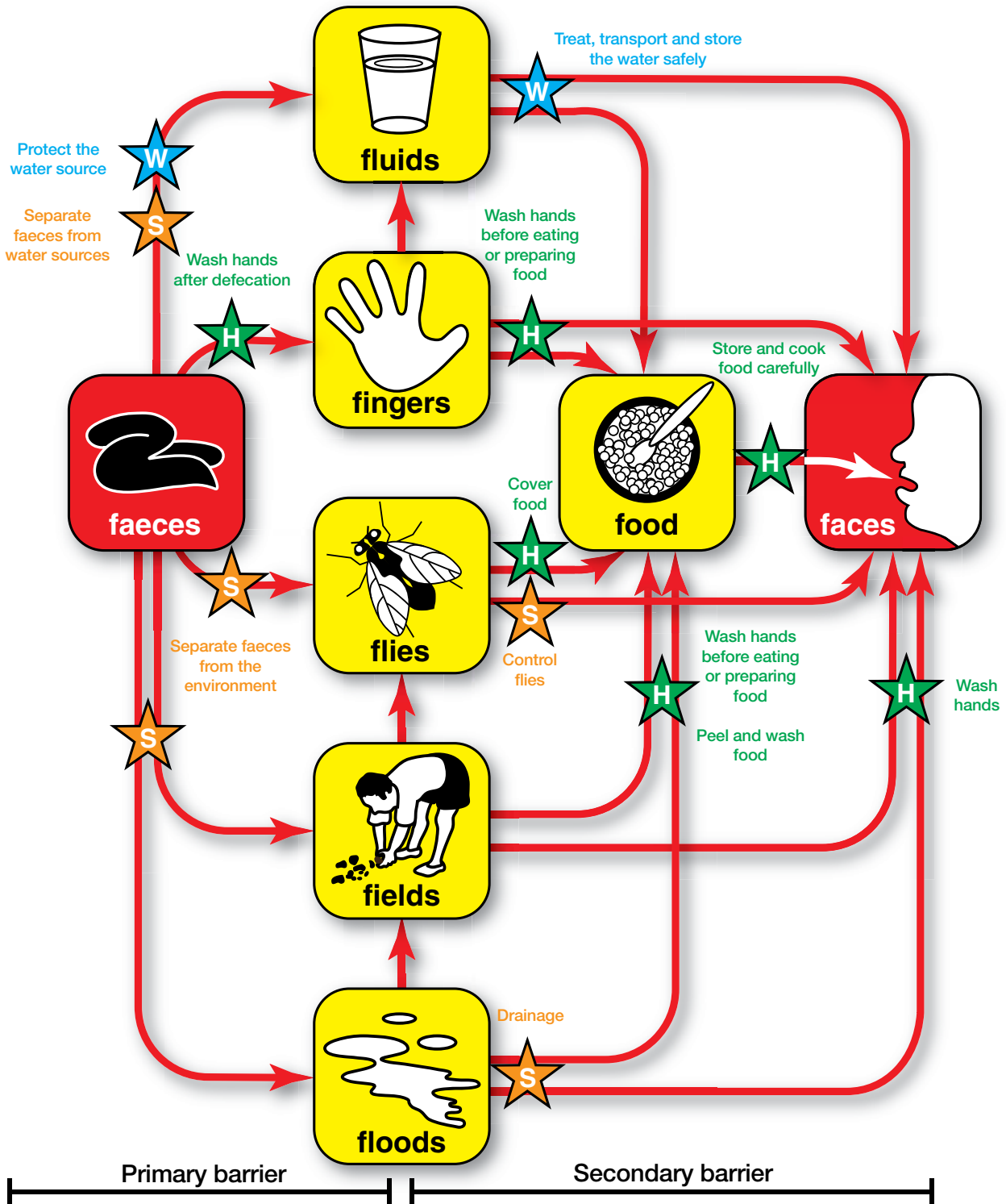
- All women and adolescent girls being able by 2040 to manage menstruation hygienically and with dignity. Indicators will be proposed to monitor access and distribution of knowledge on menstruation hygiene management, and percentage of public facilities providing gender separated latrines with water and soap and disposal facilities for menstrual materials.

Check list:

Malteser International WASH programmes to assess scope for interventions in the field of:

- developing handwashing stations
- provision of soap
- food hygiene
- menstrual hygiene management
- access to safe drinking water

The F-diagramme is a useful tool to show this:



Note: The diagram is a summary of pathways; other associated routes may be important. Drinking water may be contaminated by a dirty water container, for example, or food may be infected by dirty cooking utensils.

★ WATER ★ SANITATION ★ HYGIENE

Barriers can stop the transmission of disease; these can be primary (preventing the initial contact with the faeces) or secondary (preventing it being ingested by a new person). They can be controlled by water, sanitation and hygiene interventions.

Hygiene context and disease transmission

Definition

Hygiene¹: conditions or practices conducive to maintaining health and preventing disease, especially through cleanliness:

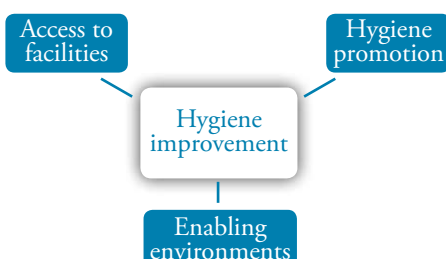
3.1 Hygiene improvement

Many of the water and sanitation related diseases can be avoided if people adopt correct hygiene behaviours.

The Hygiene Improvement Framework (HIF)² states hygiene improvement (and hence health benefits to society) arise when three things are in place:

- Hygiene promotion;
- improved access to hardware for water supply, sanitation and hygiene; and
- an enabling environment.

The transmission of diarrheal and water-related diseases is directly linked to lack of hygienic practices, open defecation and inadequate access to safe drinking water. Inadequate disposal of human excreta can lead to contamination of water resources including ground water. This is a serious



health hazard as the scarce water sources are used as drinking and domestic water for the community.

Hygiene improvement therefore plays a crucial role in preventing and managing epidemics, including cholera. It should therefore be an integral part of the health programme component.

3.2 Disease transmission routes

To get a clear idea on how effective hygiene behaviour change can be realised, a sound understanding of the disease transmission routes is necessary.

To survive as a species, pathogens must infect new people or animals. To do this, they must leave the body of the host, find their way to a new susceptible person or animal, and enter the body of that person or animal. As the exit, transmission, and entry of the pathogens are closely associated, we will cover them together. Water and environmental sanitation interventions that aim to improve the health of a population usually try to reduce the risk of transmission of infection. To do this appropriately, the WASH and health specialists need to be familiar with the

pathogens' transmission route(s). It is this understanding that enables the specialist to determine which control measures will be most effective in a particular situation.

3.2.1 F-Diagramme

In communities which lack sanitary latrines, the majority of the diarrheal diseases originate from infected faeces.

The F-Diagramme (after Wagner & Laniox, 1958) in the WEDC poster³ at the left illustrates the major transmission pathways of faecal-oral diseases. Primary barriers can stop the transmission of diseases by preventing the initial contact with the faeces, and secondary barriers prevent it from being ingested by a new person.

The F-Diagramme is a useful tool to make disease transmission routes clear to communities and at the same time indicate and discuss possible actions these communities can undertake to prevent such contamination. The picture below shows a hygiene promotion session conducted by Malteser International's partner agency CHHRA (Cambodian Health and Human Rights Alliance) using the F-Diagramme at a hygiene promotion session. The poster has been adapted to local context, which makes it a more effective hygiene promotion tool.

¹ Oxford Dictionary

² WHO: Sanitation and Hygiene Promotion, Programming Guidance, Geneva: World Health Organisation, 2005, p 2.

³ WEDC: [http://wedc.lboro.ac.uk/resources/factsheets/FS009_FDI_Pages_Poster.pdf] accessed on 19 November 2013.

3.2.2 Infection Categories:

As many infections are linked to WASH, it is useful to categorise the different diseases.

For a water and sanitation specialist the most useful categorisation is based on the transmission cycles of the infections. Generally speaking, diseases with similar transmission cycles can be controlled by similar preventive measures, and will occur in similar environments.

The infections are categorised and their transmission routes described at the same time. More information on the transmission routes and potentially effective preventive measures of specific diseases can be found in "Environmental Health Engineering in the Tropics"⁵, Cairncross et. al and article prepared by Benner and Schmitz published in *Arzte-Info-Heidelberg University*, No 36/2006.

Some terms relating to the transmission or classification of infections are defined here:

- Water-related infections.
- Food-borne infections: infections which can be transmitted through eating food containing the pathogen.
- Vector-borne infections

3.2.2a Water related infections:

The transmission routes of various water-related diseases can be grouped as follows⁴:

Transmission route	Description	Disease group	Examples
Waterborne	The pathogen is in water that is ingested	Faecal-oral	Diarrheal disease, dysenteries, typhoid fever
Water-washed (or water scarce)	Person-to-person transmission because of lack of water for hygiene	Skin and eye infections	Scabies, trachoma
Water-based	Transmission via aquatic intermediate host (for example a snail)	Water based	Schistosomiasis, guinea worm
Water related insect vector	Transmission by insects that breed in water or bite near water	Water related insect vector	Dengue, malaria, trypanosomiasis



Hygiene promotion session in support of CLTS, conducted by Malteser International partner CHHRA in Cambodia

Water washed diseases

Water washed diseases are very closely linked to hygiene behaviour, and are caused by water scarcity where people cannot wash themselves, their clothes or home regularly.

Trachoma is the main cause of preventable blindness in the developing world, with 2.2 million people visually impact and 1.2 million blinds. (WHO: www.who.int/blindness/causes/priority/en/index2.html accessed 19 November 2013).

It is common in areas that are hot, dry and dusty and where there is not enough water for people to wash regularly.

Trachoma is spread, especially among young children, by flies, fingers and clothing coming into contact with infected eyes, spreading the infection to other people's eyes.

Effect on health: The infection causes a sticky eye discharge with soreness and swelling of the eyelids. After repeated infections scarring of the inner eyelids occurs which can lead to trichiasis where the eyelashes turn inwards.

These then rub on the eye, scarring the cornea and causing blindness.

Prevention: Trachoma can be prevented through regular hand and face washing with a good supply of clean water, along with hygiene education to help prevent flies from breeding.

Scabies occurs in areas where there is a lack of water and people are unable to wash themselves, their clothes, bedclothes or houses regularly. There are about 300 million cases of scabies in the world each year. (www.who.int/water_sanitation_health/diseases/scabies/en/ accessed on 19 November 2013)

It is caused by the scabies mite which infests the surface layer of the skin. The mite can spread from one person to another through personal contact.

Effect on health: Scabies causes itchy sores and lesions mainly between the fingers, wrists, elbows, breasts and pubic areas.

In younger sufferers more areas, including baby's feet and the head, can be infected. Because sufferers often scratch the sores and lesions they become prone to other infections.

Prevention: Washing regularly with soap and keeping clothes, bedclothes and houses clean prevents scabies.

A poster with guide to personal hygiene related to water-washed disease transmission can be found in Annex 1.

⁴ IRC: WASH Cost, *Assessing hygiene cost-effectiveness*, Alana Potter et al, The Hague, December 2011, p 2

⁵ Cairncross et. al: *Environmental Health Engineering in the Tropics*, 1993

Water-borne disease transmission route :

This occurs when the pathogen is in water which is drunk by a person or animal, which may then become infected. Potentially water-borne diseases include cholera, typhoid, infectious hepatitis, diarrhea and dysenteries.

3.2.2b Food-borne infections:

These are infections which can be transmitted through eating food containing pathogen.

Major foodborne diseases from microorganisms (WHO)⁶

- **Salmonellosis** is a major problem in most countries. Salmonellosis is caused by the *Salmonella* bacteria and symptoms are fever, headache, nausea, vomiting, abdominal pain and diarrhea. Examples of foods involved in outbreaks of salmonellosis are eggs, poultry and other meats, raw milk and chocolate.
- **Campylobacteriosis** is a widespread infection. It is caused by certain species of *Campylobacter* bacteria and in some countries, the reported number of cases surpasses the incidence of Salmonellosis. Foodborne cases are mainly caused by food such as raw milk, raw or undercooked poultry and drinking water. Acute health effects of Campylobacteriosis include severe abdominal pain, fever, nausea and diarrhea. In two to ten per cent of cases the infection may lead to chronic health problems, including reactive arthritis and neurological disorders.
- Infections due to **enterohaemorrhagic** (causing intestinal bleeding) *E. coli*, e.g. *E. coli* O157, and listeriosis are important foodborne diseases which have emerged over the last decades. Although their incidence is relatively low, their severe and sometimes fatal health consequences, particularly

among infants, children and the elderly, make them among the most serious foodborne infections.

- **Cholera** is a major public health problem in developing countries, also causing enormous economic losses. The disease is caused by the bacterium *Vibrio cholera*. In addition to water, contaminated food can be the vehicle of infection. Different food, including rice, vegetables, millet gruel and various types of seafood have been implicated in outbreaks of cholera. Symptoms, including abdominal pain, vomiting and profuse watery diarrhea, may lead to severe dehydration and possibly death, unless fluid and salt are replaced.

3.2.2c Vector-borne infections⁷:

These infections are transmitted through vectors. The most important vectors are mosquitos, flies, bugs, ticks and lice. Vectors can be mechanical or biological. In case of mechanical vectors, pathogens are transported on or in the body of the vector, like transportation of faecal pathogens by flies. A biological vector is infected by the pathogen, which then develops or multiplies inside the body of the vector.

Mosquito-borne diseases:

Mosquitos are vectors of malaria, filariasis, and arboviral infections. Only female mosquitos bite, and use the blood they get from the bites to feed the eggs they develop.

Malaria:

For malaria control measures it is important to know that "blood-laden" mosquitos cannot fly very far, so they generally bite within one kilometer distance from their breeding place. Mosquito lay their eggs in water. Destroying breeding sites by drainage or other means is therefore an effective malaria control measure. So, the four main control measures for malaria are:

- Administration of drugs to infected people
- Killing of adult mosquitos. Bed nets treated with insecticide need special mention here as an effective way to eliminate mosquitos and protect the population.
- Control of mosquito breeding by eliminating or treating their habitats. Drainage and filling of pools with stagnant water are effective measures.
- Health education is essential so that people learn how to protect themselves against this disease.

It should be noted that a combination of the above measures is often needed to tackle the malaria problem in a community. Focus should be on undertaking these measures in areas close to concentrations of population.

While designing water reservoirs or tanks, engineers should give due attention to design features that avoid these storage facilities becoming mosquito breeding spots.

Yellow fever and dengue:

Yellow fever, dengue and related viral diseases are transmitted by the *Aedes aegypti* mosquito. These diseases occur particularly in urban areas. As many of these viruses are also present in animals it is difficult to eradicate them by curing infected people only. This makes the control of the vector mosquito the more important. Mosquito eradication measures as mentioned under the section on malaria can be used for this.

As the *Aedes aegypti* often breeds in small pools of clean water around houses, like in tin cans, water storage jars, rubber tyres etc, its control requires community education and promotion of hygienic behaviour around the house. In this context, it is also essential to assure that water containers are covered.

Long-Lasting Insecticidal Nets (LLIN)

It is recommended to only use Long-Lasting Insecticidal Nets (LLIN) which is in line with WHO policy. LLINs are designed to maintain their biological efficacy against vector mosquitoes for at least three years in the field under recommended conditions of use, obviating the need for regular insecticide treatment (WHO). Normally their life span is given as between 5-10 years, they are made to keep their efficiency for at least several washings.

The promotion of bed nets should go along firstly with an awareness campaign on malaria, in which signs and symptoms are explained. Emphasis is on early diagnosis of malaria and break the transmission cycle.

Secondly, the distribution needs to go along with simple education on how to use the nets, who should sleep under a net (= everybody), instructions for cleaning the net, with an emphasis that the net doesn't need to be re-impregnated.

When distributing nets, one should look in advance at the sleeping patterns in the specific culture to ensure that sufficient nets are provided to household. Often 1 net is provided per household which means that parents sleep under it and children not.

⁶ WHO: [<http://www.who.int/mediacentre/factsheets/en/>] select disease factsheet in alphabetic list

⁷ Adapted from Cairncross et. al: *Environmental Health Engineering in the Tropics*, 1993, Chapter 15

Different approaches of Dengue control: Case Studies from Oddar Meanchaey, Cambodia

In the collaboratively implemented WASH project of Malteser International and CHHRA, dengue prevention received core attention due to continuous dengue cases especially in children and epidemic disease occurrence during onset of the rainy season (June, July) in Cambodia. Malteser International and CHHRA



organised a 5 day Dengue Control Workshop, facilitated by experts from Institute Pasteur in Ho Chi Minh City (IPHCM), Vietnam for 13 staff from CHHRA and Malteser International to enable project staff to be able to conduct community education on Dengue, Dengue KAP surveys, entomological surveys and identification and breeding of Mesocyclops. In Vietnam Mesocyclops had been successfully used as biological vector control to decrease the number of the Dengue transmitting aedes aegypti larvae in water containers around the households*. The external biologists focused their training on dengue transmission, proactive measures of Dengue prevention (source reduction, minimization of breeding sites), interviewers for KAP surveys, entomological surveys: 5-sweep net, larval count, identification of Aedes immature and how to raise and inoculate Mesocyclops. During the fieldwork Mesocyclops were found in several sites within the target villages and a concept for a breeding program had been developed. CHHRA started to breed Mesocyclops at their office

compound immediately following the Dengue Control Workshop. As this was a relatively new concept for Cambodia it required time to practice the technique which is used in Vietnam and adapted to Cambodian conditions. While the first two batches of Mesocyclops haven't survived more than a week the third attempt was successful.

The first two attempts were made in large plastic buckets and for the third batch CHHRA changed to ceramic water jars (similar to where they were collected in their natural environment) using water from the village in which the Mesocyclops were collected. The Mesocyclops component of the Dengue Control program was piloted in 3 villages during the project, two villages for the intervention for dengue control and one village as a control village. Unfortunately the breeding of Mesocyclops in the selected schools and communities has not been successful. The reasons may lie in deeper scientific causes which can only be determined by specialists. Children have not been receptive to the approach as the Mesocyclops are extremely small and difficult to handle. In 2012, the project team has changed its approach to using seven colour fish (guppy fish), a 25-60mm long freshwater fish, which like the Mesocyclops eat the larvae of Aedes Aegypti. A community based project of ADB and WHO in cooperation with the governments of Cambodia, Lao and the Philippines (2009-2011) using guppy fish as form of biological mosquito control has led



Use of seven colour fish in dengue prevention

to impressive results**. Twelve months into the study, following the first full dengue cycle, none of the water jars containing guppies had any evidence of larvae. In Cambodia the use of the fish is promoted through national TV information bulletins of the MoH. CHHRA established a school program by breeding guppy fish at 10 schools. Once enough have been bred, they are provided to each school child to take them home in containers or plastic bags where they are placed in potential breeding sites around their homes. The project team must develop a monitoring system to evaluate the outcomes of this intervention. The complementary activities of school and village hygiene promotion and clean-up campaigns were continued and are effective to reduce Dengue mosquito breeding sites. Communities received health education on prevention of Dengue, transmission of Dengue, signs, symptoms and treatment, and village clean up campaigns were organised. Some villages with strong communal leaders maintain the momentum and continue with the cleaning campaigns. Usually the national celebration periods of Khmer New Year and Bchum Benh are chosen as many guests travel to their homelands during this time.



* Brian Kay, Vu Sinh Nam: *New strategy against Aedes aegypti in Vietnam. Lancet 2005; 365: 613-617*

** ADB, WHO: *Community-based dengue vector control; Manila: Asian Development Bank, 2013*

Check list on how to identify major hygiene issues :

1. Observe current water, sanitation and hygiene practices within community. A KAP survey can be useful for this purpose.

Water:

- a. Is systematic water testing done to assess its microbiological parameters, particularly for any level of faecal contamination?
- b. How much water is available per person per day, and how much is collected on average per household?
- c. What is daily frequency of water supply availability?
- d. Do people have enough water containers to transport and store water, and are they clean and covered?
- e. In case microbiological contamination of drinking water is observed, do people practice any form of household level water treatment, or is there any community level treatment?
- f. Is water source protection undertaken?
- g. Are water points close enough to where people live?
- h. Have water points adequate drainage to avoid stagnant water?
- i. Is water source at least 30 meter away from latrine pit, waste dumping yard, cemetery or factory that produces hazardous chemicals?

Sanitation:

- a. What is the current defecation practice? In case of open defecation check if there are designated areas.
- b. Check the status of existing sanitation facilities if they are safe and block transmission of pathogens to humans.
- c. Are latrines located at least 30 meter from waterpoints that draw ground or surface water
- d. Do people wash there hands after defecation and before food preparation, and are handwashing stations with soap available?
- e. How do women manage issues related to menstruation? Are there appropriate materials or facilities available for this?
- f. Check safe disposal arrangements for excreta of infants and cleaning habits of infants after defecation.
- g. Do people dispose their domestic waste safely? How do they dispose waste? Is it away from water source (at least 30 meter)?

2. Identify those practices that are harmful to health (and who practices these and why)?

- a. No handwashing at critical times, or without using soap
- b. Consuming contaminated water or food
- c. Open defecation in proximity of dwellings
- d. Use of unclean latrines
- e. Unsafe water extraction practices from wells or ponds
- f. Shared use with animals of water points
- g. Unsafe water handling and storage at household level

Partly adapted from SPHERE 2011, Appendix 1, p 124



Water collection from scooping hole in river bed, Illeret, Kenya



Hygienic management of drinking water at household level, Sri Lanka (Bio-sand filter)



Community level cleaning campaign, Cambodia

Hygiene perspectives at different operational levels

4.1 Household level

Awareness on improved hygiene standards and the need to change current practices is the first step toward successful hygiene behaviour change. Communities need to be educated on the advantages of hygiene behaviour change. Improved hygiene practices lead to better health and less illness among the adult population as well as children and the elderly. Adults can have a more productive life, and children will miss fewer classes at school, whereas the households can also spend less on medical bills. They will have a more convenient life, especially when women and girls have access to safe latrines, and do not have to wait until dark to relieve themselves. It also gives the household a higher status in the community if they have access to a latrine and show improved hygiene behaviour. In this regard it is important to note that it is not always the perceived health benefits that motivate households to change their hygiene behaviour.

To start hygiene behaviour interventions, it is best to identify the most dangerous hygiene behaviours first and seek solutions to address those. Often this is related to a lack of access to safe sanitation facilities or the use of contaminated water for drinking purpose. In case of lack of sanitation facilities at household level, special attention should be given to children under the age of 5, as they often defecate nearby the house, and are most vulnerable to the effect of diarrheal diseases.

While introducing hygiene behaviour change, it is most effective to promote only a few simple and achievable targets at a time. Any hardware interventions should be affordable without outside financial support. Changes in hygiene behaviour could also be seen as a threat for some members of the household, like the elderly who might be less recipient to accept any change in their behaviour pattern.

While undertaking hygiene behaviour change for household level, it is important to all members of the households; men, women, children and the elderly, as all have their specific needs and reasons to change their behaviour (or not).

4.2 Community level⁸

A first step for addressing hygiene issues at community level is to do an assessment on the current hygiene practices and community hygiene status. Like at household level, it is important to identify the most pressing poor hygiene behaviours or conditions that need to be addressed. It is important to realize that different seasons in the year often have different pressing hygiene issues. In the rainy season there can be a lot of stagnant water around in the community, whereas in the dry season, shortage of water can pose other problems.

Household level hygiene behaviour change process check list:

1. Assess current hygiene status and practices through KAP surveys or similar exercise with all members of the household.
2. Identify high risk hygiene behaviour practices with adverse health impact
3. Conduct good hygiene behaviour education for all members of the household
4. Jointly with the households, identify one or two poor hygiene behaviour practices that need (and want) to address to minimize health risks to the household
5. Make household level hygiene behaviour change plan,
6. Regular follow up and review by the Hygiene promoters

UNICEF has realised the need and importance to focusing on sanitation, water quality and hygiene at the household level⁹: There is increasing evidence that a greater focus on the household level increases the effectiveness of sectorial programmes, especially in the areas of sanitation, water quality and hygiene promotion. UNICEF therefore promotes affordable, safe household latrines; technology development in the area of household water treatment, and programmes that seek to improve key household hygiene practices.

⁸ WSSCC: [<http://www.wsscc.org/topics/hygiene/community-hygiene-promotion/>] accessed on 20 November 2013

⁹ UNICEF: [http://www.unicef.org/wash/index_43084.html] (scroll down to item no.6) accessed on 20 November 2013

For successful community level hygiene behaviour transformation, it is crucial to include all sections of the community in the planning and implementation phases of the intervention. It is important to aim for hygiene behaviour transformation for the entire community, and not focus on certain groups only. For instance, if there are only a few members of the community who continue practicing open defecation, they can bring the entire community at risk for the spreading of diseases.

Community level hygiene behaviour transformation interventions should be linked with follow up activities at household level.

Assuring communities understand the importance of hygiene in reducing infectious disease is the first step in changing hygiene behaviours for the better. Research has shown participatory processes are effective in encouraging behaviour change.

Healthy hygiene approaches can improve the living conditions and health of communities. When adapted to local conditions and shared in participatory processes, these approaches build self-esteem and foster a sense of ownership in healthy hygiene practices.

Holistic or participatory community hygiene approaches aim for a complete change of behaviour with respect to hygiene. The approaches may include hand washing, safe disposal of children's faeces and other solid waste, household's treatment of drinking water, and improved food hygiene.

The approaches encourage the participation of individuals in a group process irrespective of age, sex, social class, or educational background. Participatory methods, such as the group process, are suitable for the community level and are designed to build people's self-esteem and gradually develop a sense of responsibility and ownership for one's decisions.

Group participation is useful for encouraging involvement of women, children, the elderly, and people with disabilities, who in some cultures may be reluctant or unable to express their views. Inclusion of the greater community also has the advantage of aiding people to feel changes from within, rather than imposed from outside.

Some examples of participatory community hygiene are CLTS (Community-Led Total Sanitation), Child Hygiene and Sanitation Training (CHAST), Community Health Clubs (CHC), and WASH in Schools. By employing different methodologies, each programme is based on pairing community involvement with changing behaviours related to hygiene.

WSSCC has compiled an overview of approaches, including the organization's experiences and advantages/disadvantages, in the publication of sanitation and hygiene software.¹⁰

Community level hygiene campaigns can be a very effective measure to make all members of the community aware of the need and possibilities for hygiene related behaviour change.

Malteser International Myanmar undertook several community level hygiene promotion activities in Middle Island:

Implement hygiene related action plans including e.g. village cleaning campaigns, waste management, and construction of barns for domestic animals or covering drinking water containers.

In the workshops on water and sanitation, action plans have been developed to ensure a hygienic and healthy environment for the villages.

The communities have decided which action plan is suitable for their situation. One market cleaning campaign, one market garbage dumping site, 20 schools' cleaning campaigns, eleven pond access (seven stealing wells and four jetties), eight pond fencing (usually together with an extension and / or and access point) and one waste water drainage system were completed in 14 villages - additionally to the construction of 1933 latrines.



Market hygiene education campaign, Thin Gane Kone, Middle Island, Myanmar

Community level hygiene check list

- Assess current community level hygiene knowledge and practices, with focus on latrine use, handwashing, food hygiene, water use and storage related hygiene and environmental hygiene and identify any gaps in safe hygiene practices.
- In the community assessment, identify differences in perceptions and practices between the various population groups like men, women, children, elderly, disabled and sick and other marginalised groups.
- Check communities' perception of the identified safe hygiene practice gaps, and assess if community feels a need to address these
- Identify and support actions that create a demand within the community to address key safe hygiene practice gaps as identified above
- Identify jointly with community the priority hygiene practices that require change, and make plans for community level behaviour change for 1-2 practices at a time only. Once these practices are adopted by the community, the programme can move on with addressing the next set of hygiene behaviours.

¹⁰ WSSCC: Andy Peal, Barbara Evans, Carolien van der Voorden, *Sanitation and Hygiene software, An overview of approaches*. Geneva: Water Supply and Sanitation Collaborative Council, 2010

4.3 Schools

School children have proven to be an excellent entry point to promoting hygiene behaviour changes as they are generally more receptive to change. Children also take hygiene message back home and in their communities, so that the impact of school based hygiene interventions can spread out to the wider community.

To promote good hygiene behaviour at schools, it is essential to combine hardware and software components to produce a healthy school environment and to develop or support safe hygiene behaviours.

- The hardware components:
 - drinking water
 - hand washing
 - excreta disposal
 - solid waste disposal facilities in and around the school compound.
- Software components: activities that promote conditions at school and practices of school staff and children that help to prevent water and sanitation-related diseases and parasites



© Carmen Wolf
School hygiene promotion session, Sri Lanka

4.4 Link Malteser International supported social infrastructure development with hygiene promotion

Malteser International supports social infrastructure development in many of its programmes. Such activities give a good entry point to introduce good hygiene practices to its users.

Health facilities, schools and other social infrastructure developments should have adequate and inclusive WASH facilities, and a hygiene promotion and maintenance plan should accompany the “hardware” component, so that the WASH facilities can be safely used during its operation.

School cleaning campaign Malteser International Myanmar



Bamboo garbage pit at Yae Ban Kyi School, Middle Island, Myanmar

Malteser International has selected twenty schools in Middle Island for the school cleaning campaign. This included nine primary schools, nine middle schools and two high schools. In total 4521 students participated in the one day programme. In those schools with more than 100 students, Malteser International provided loudspeakers, microphones and different

groups were formed and led by the WASH Field Officers, by the Health Educators and the Community Mobilizers. The programme included education sessions on the 4 Cleans, personal hygiene lessons, games and songs on health and hygiene, a discussion about fly proof latrines and the right usage, the methods of how to get clean water, the prevention of water diseases, hand-washing training and a food safety component. After the theoretical part, a quiz was conducted and the children could proof their knowledge and win bars of soap and toothpaste.

Check list for hygiene promotion at schools:

- Identify past and ongoing hygiene promotion activities at school, and assess its effectiveness through observing current hygiene practices of students and staff related to latrine use, handwashing practices, cleanliness of school compound, and access to safe water.
- Current school level hygiene knowledge, practices, and facilities with focus on latrine use, handwashing with soap, food hygiene, water use and storage related hygiene and environmental hygiene and identify any gaps in safe hygiene practices.
- Discuss school hygiene development needs and plan with all stakeholders involved; education authorities, teaching staff, parents and students to come to realistic plan and mobilise support from stakeholders.
- School health clubs to be at the center of hygiene promotion and follow up activities.
- Assure availability soap and cleaning materials.
- Identify special needs and develop facilities menstruation hygiene management at school level.
- Identify special needs and develop facilities to secure school WASH facilities and services are inclusive for all.
- Encourage students to promote hygiene messages to their families and wider community.

School Health Clubs - proven to be effective in engaging the wider school community in health and hygiene issues.

The Fit for School Program in the Philippines offers a lot of documentation on how to apply WASH interventions in schools (www.fitforschool.ph).

Malteser International Kenya experience with promoting tippy-tap handwashing stations, Illeret, Kenya:

Malteser International conducted five meetings with awareness creation meetings on diarrhea prevention. Our baseline study showed that 70 to 80% of the people had diarrhea within the last two months. We used drawings (factsheets) to start the discussion and learned very quickly that we had to split the group in women and man. Villagers came up with many ideas on how to prevent diarrhea. In the end all villages promised to organize themselves and clean their environment. We are curious to learn about the communities' experiences next few weeks when we are visiting them again.



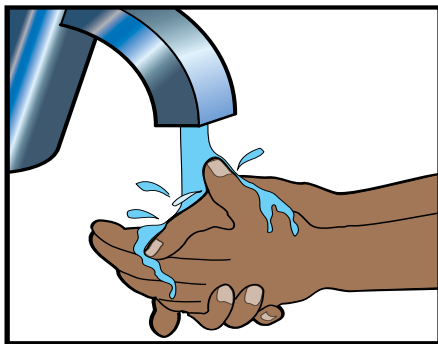
Tippy-tap promotion by Malteser International Kenya in Illeret, Kenya.

Since this was the first awareness creation meeting, a village volunteer was selected by the community and Malteser International to be the link between the village and Malteser International Illeret.

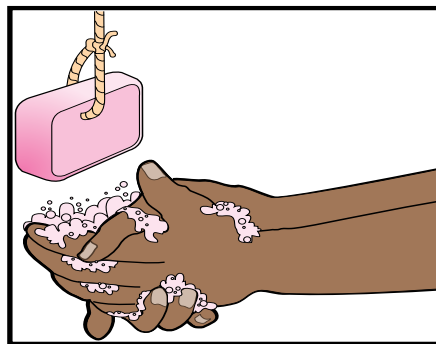
After the meeting there was a demonstration of the rain water harvesting system using plastic sheets. And the villagers selected ten beneficiaries among themselves.

Finally the tippy tap was demonstrated and after that, it seems natural for all participants to wash their hands before having lunch. Even after lunch they washed their hands again. Which is a new habit for most of them.

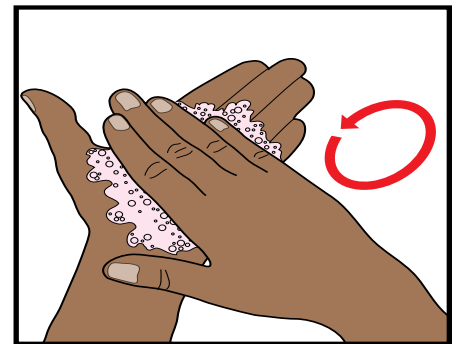
Per village, Malteser International donated one tippy tap to the selected volunteer and we hope they make some copies on their own initiative.



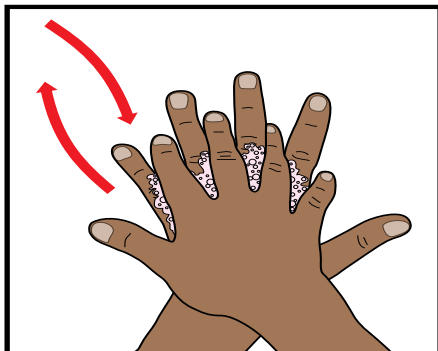
1. Wet hands with water



2. Apply soap to cover all surfaces of the hands



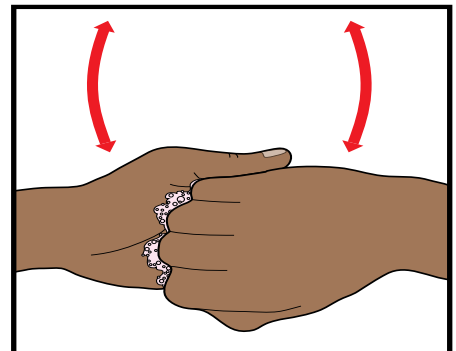
3. Rub hands palm to palm



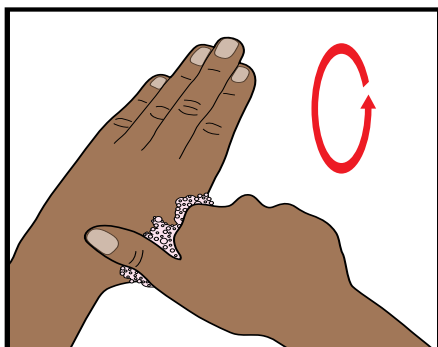
4. Rub each palm over the back of the other hand



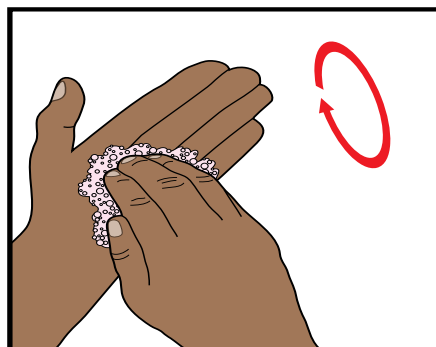
5. Rub palm to palm with fingers interlaced



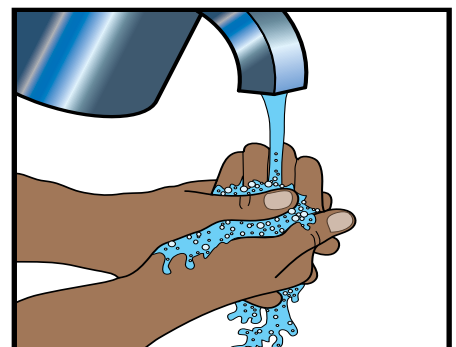
6. Rub backs of fingers to opposing palms with fingers interlocked



7. Rub each thumb clasped in opposing palm



8. Clasp fingers and circular rub opposing palm



9. Rinse well with water. Allow hands to dry completely before touching anything else

Types of Hygiene

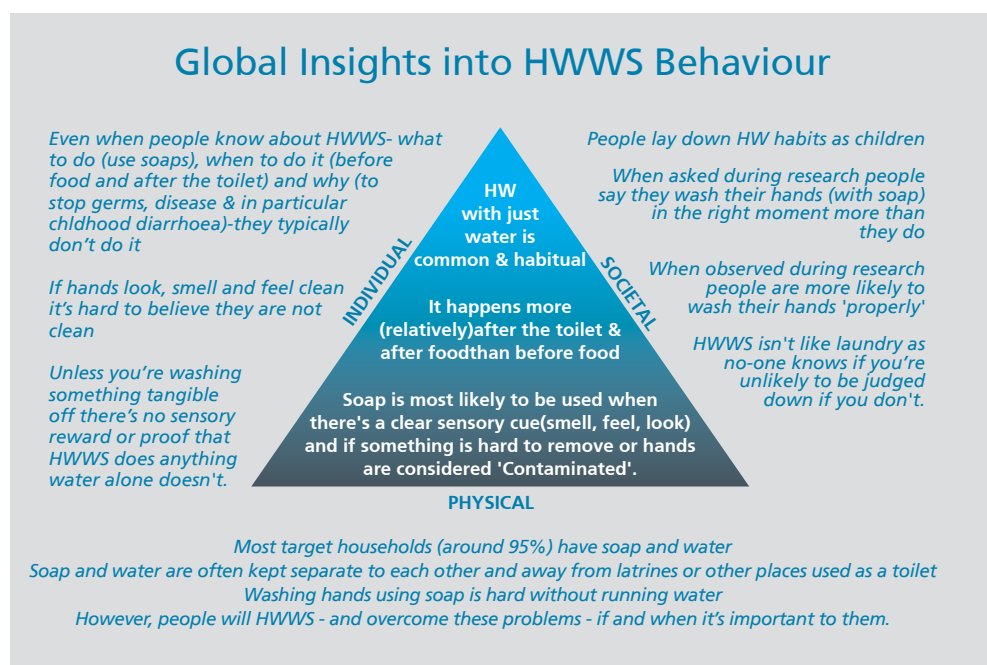
5.1 Personal hygiene

5.1.1 Handwashing with soap (HWWS)

Having clean hands is important to prevent disease. Handwashing is a complex behaviour, for which several things are needed such as knowledge, skills and enabling environment. Five elements that one can use as approaches to measure handwashing are:

- knowledge of handwashing times that are important for health reasons.
- the “critical” handwashing times are: before eating and cooking, after defecation and after handling excreta of infants.
- skills in washing hands correctly. In practice this means rubbing both hands with a cleaning agent like soap or ash and using enough running water. The nine steps method is officially promoted by most WASH agencies, but this can be complicated at times for communities who do not practice safe handwashing methods yet.
- enabling environment, for example existence of a convenient location with soap and water for handwashing in the household.
- the person’s actual practice of handwashing.

Studies¹¹ have revealed that handwashing with soap is very effective in reducing diarrhea. Five studies between 2003 and 2010 all revealed that handwashing with soap gave a reduction of about 40% in diarrhea morbidity in children under 5.



From “More than Soap and Water”, UNICEF, Anne Thomas, March 2011

Some HWWS lessons learnt:¹¹

- The evidence: HWWS at critical times is the most cost-effective way to reduce diarrheal disease. While knowledge of the practice is high, practice is low.
- Behaviour change: Access to water and sanitation services alone is not enough to sustain hygienic behaviours.
- Fewer, high impact messages. Campaigns that focus on a single behaviour are more successful. People are not motivated by health concerns.
- Scaling up. It is essential to mainstream HWWS promotion

and indicators into current health promotion, education and water and sanitation national programs. Only if this happens will a “culture of HWWS” develop and will HWWS behaviours be sustained.

- Capacity building and awareness creation: The challenge is to increase awareness of the importance and effectiveness of HWWS as well as to continue to grow our collective capacity to implement these approaches.

¹¹ UNICEF: Ann Thomas, “More than Soap and Water”: “Taking handwashing with soap to scale”, New York, 2011



School Handwashing Promotion, Klo Klo village, Thailand

In a recent publication on “The effect of Handwashing with water and soap on Bacterial Contamination”¹³ the results of a study were revealed in which comparisons were made between not washing hands, washing hands with water only and washing hands with water and soap. In this study 20 volunteers contaminated their hands deliberately by touching door handles and railings in public spaces. They were then allocated at random to (1) handwashing with water, (2) handwashing with non-antibacterial soap and (3) no handwashing. Bacteria of potential faecal origin were found after no handwashing in 44% of samples. Handwashing with water alone reduced the presence of bacteria to 23%. Handwashing with plain soap and water reduced the presence of bacteria to 8%. The effect did not appear to depend on the bacteria species. So, handwashing with non-antibacterial soap and water is more effective for the removal of bacteria of potential faecal origin from hands than handwashing with water alone and should therefore be promoted for the prevention of transmission of diarrheal diseases.

Handwashing method	Presence of bacteria
No handwashing	44%
Handwashing with water only	23%
Handwashing with water and soap	8%

Sphere 2011 handbook recommends distribution of 250 g bathing soap per person per month.

5.1.2 Menstrual Hygiene Management (MHM)

For post-2015 Global WASH monitoring, hygiene promotion has been identified as an important component, and Menstrual Hygiene Management has been proposed as one of the key aspects to monitor.

WEDC¹⁴ defines MHM as focuses on practical strategies for coping with monthly periods. It refers to ways women and girls keep clean and healthy during menstruation and how they acquire, use and dispose of blood-absorbing materials.

Some of the issues they identify are:

- the expense of commercial sanitary pads;
- the lack of water for bathing and washing of menstrual materials;
- dirty latrines – the hygiene hazards and unpleasantness;

- the lack of hygienic anal cleansing materials;
- unsuitable places to dry menstrual materials;
- lack of access to pain relief (analgesic) drugs;
- inadequate waste disposal facilities;
- the lack of privacy for changing menstrual materials;
- ‘leakage’ from poor-quality protection materials;
- the lack of resources for washing such as soap and basins;
- limited education about the facts of menstruation;
- limited access to counseling and guidance;
- fear caused by cultural myths;
- embarrassment and low self-esteem;
- the unsupportive attitudes of some men.

These are all aspects to be taken into consideration, particularly while planning Malteser International school WASH interventions.

Menstrual hygiene management checklist:

- Identify female staff or community members who could assess menstruation hygiene management practices for further programme design on this topic
- Assess practices and enabling environment for menstruation hygiene management, particularly at schools
- Ensure WASH facilities at schools are adapted to facilitate menstruation hygiene management requirements
- Consider need for distribution of sanitary items in support of menstruation hygiene management. This is of particular importance during emergencies.

HWWS checklist:

- Assess current HWWS practices
- Assure community knows the critical moments for handwashing and correct handwashing skills
- Identify jointly with community practical handwashing devices favored by them
- Assure availability of soap or alternative handwashing materials
- Assure availability of sufficient quantity of water for hadwashing devices
- Identify occasions to promote HWWS publicly in the community (ceremonies, market days etc)

¹² CDC: [<http://www.cdc.gov/handwashing/>]

¹³ NCBI: M. Burton et al, [<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3037063/>], *International Journal of Environmental Research and Public Health*, “The effect of Handwashing with water and soap on Bacterial Contamination”, January 2011

¹⁴ WEDC Factsheet 7, MHM for school girls in low and middle income countries, Leicestershire, Water, Engineering and Development Centre, June 2012

5.1.3 **Cleaning fingernails¹⁵** is closely related to handwashing. Handwashing as such does not ensure that fingernails are cleaned also. Whereas clean fingernails have an aesthetic value, from a health point of view they are particularly important when food is consumed or fed to infants using fingers.

Handwashing and cleaning fingernails also play a role in the prevention of eye and skin infections, such as scabies. When wiping infected eyes or scratching itching infected skin, bacteria or mites can settle on fingers and hence be transmitted.

Keeping fingernails clean requires them to be kept short and brushed regularly.

5.1.4 **Washing the body** is another behaviour relevant for the prevention of skin infections like scabies (caused by small mites living under the skin), and ringworm (a fungal infection). Also louse-borne typhus and louse-borne relapsing fever do not persist with regular washing of the body and clothes. Washing is best done using running water and soap, whereby special attention needs to go to folds of the skin as well as to skin between fingers and toes.

5.1.5 **Washing the face** plays an important role in the prevention of eye-infections. Hygiene related eye infections include Conjunctivitis and Trachoma, an eye infection that may eventually cause blindness. Evidence from health research shows that a lower incidence of Trachoma is associated with fewer flies sitting on eyes and more frequent washing of children's faces (Emerson et al 2000). When a person suffers from either of these two infections, washing the face regularly will remove the infectious discharge from the eyes. This prevents flies from being attracted to the infected eyes, thus becoming transmission agents. When the discharge is removed using bare fingers or a cloth, the bacteria can easily be picked up on the fingers or cloth and transmitted to anything else that they touch.

It is also important not to touch the face with contaminated hands.

5.1.6 **Washing clothes and bedding** - like washing the body, washing clothes and bedding are major preventive measures for the transmission of scabies and louse-borne typhus and relapsing fever.



Oral hygiene campaign at primary school in local area near Karen refugee camps, Thailand

Someone can easily be infected with scabies or ringworm if s/he touches the clothes or bedclothes of a person with scabies. Lice, which may spread typhus or relapsing fever, hide in seams of clothes and bedclothes and these should therefore be thoroughly washed regularly. Communal use of clothes and bedclothes should be avoided.

Sphere 2011 handbook recommends distribution of 200 g laundry soap per person per month.

5.1.7 Oral hygiene

In developing countries, oral health services are mostly offered by regional or central hospitals of urban centres and little, if any, priority is given to preventive or restorative dental care. Many developing countries also have a shortage of oral health personnel and the capacity of the systems is mostly limited to pain relief or emergency care. A poor oral health status has an adverse impact on the overall health and self-esteem of people. People unable to chew their food properly are more likely to develop digestive problems later on in life.

5.2 Environmental hygiene

Environmental hygiene in the context of WASH deals mainly with keeping areas around water sources clean of contamination. This includes protection of spring sources and surface water sources

like ponds, and avoiding stagnant water around water points, which can seep back into wells again or can be a breeding area for mosquitos.

Keeping areas around ponds clean is a good example of sound environmental hygiene practices.



Together with the villagers, ponds are fenced to avoid contamination by animals.

The WEDC technical note 47 on improving pond water suggests the following environmental hygiene actions:

Restricting activities around the pond

Whenever possible, fence off the catchment area draining into the pond and prevent polluting activities from taking place within the catchment area.

Restricting activities in the pond

Faecal pathogens enter the water:

- when faeces are deposited in the water;
- when people wash themselves or their clothes; and
- on the feet of people and animals.

¹⁵ WELL Loughborough University: E.Bolt: WELL Fact sheet, Leicestershire, Personal hygiene behavior, 2005

Keeping people and animals out of the pond will improve the water quality. It will also prevent the spread of guinea-worm disease.

Some communities may be able to devote one pond to bathing and watering livestock, and leave another pond protected from these activities so that the water quality is maintained.

Community level campaigns can be an effective tool to make the members of a community aware of the environmental hygiene issues that need to be addressed, and how this can be done.

Storm water management / drainage

Drainage construction is an effective mosquito control measure. It requires a one-time capital investment, followed by recurrent costs for maintenance which may be minimal if a good level of community participation can be obtained. Often, the initial investment costs less than one year's supply of insecticides. Drainage is an aspect of storm water management. Storm water management means to manage surface runoff. It can be applied in rural areas, but is most essential in urban areas where run-off cannot infiltrate because the surfaces are impermeable.

5.3 Domestic hygiene

5.3.1 Latrines and sludge handling

Having and using a latrine is essential to prevent diarrhea and worm infections, as it prevents human excreta to get into contact with humans.

The following latrine use related behaviours are essential for a successful sanitation programme:

- Evidence of latrine use. A clear path to the latrine, excreta in the pit and an environment free from excreta.
- Evidence of latrine use consistently by each person when they are around the household.
- Latrine is maintained. The floor is clean, the hole and walls free from excreta. The hole of the pit latrine is covered.

Sanitation programmes that focus on number of latrines constructed have largely failed to deliver desired outcome and impact related results. Building further on these failures, Mukherjee explains in his article in Waterlines,

October 2009, that new, behaviour changing approaches to improve sanitation can be very successful. Focus is on changing behaviours of individuals, households and communities, instead of simply pushing for toilet construction with externally provided subsidies. Mukherjee argues that *raising collective awareness about the need for better sanitation along with offering individuals a range of choices for sanitation solutions leads to increased consumer demand for, and the adoption of, improved sanitation facilities and behaviours.* This approach is further elaborated on in the chapters on Community-Led Sanitation and Sanitation Marketing in the Malteser International WASH Guidelines for Field Practitioners; Part 2 Sanitation..

While designing sanitation interventions, the issue of safe handling or treatment of sludge should be considered right from the design phase onwards. Systems that require manual de-sludging should be avoided.

5.3.2 Water storage

Safe storage of drinking water means at least keeping it covered. Safe storage also requires that the container and storage area should be clean, there should be no visible particles in the water and there should be a safe way to extract the water from the container. Containers should be covered to avoid contamination. To maintain good hygiene standards, it is a good practice to place the storage on a slightly raised platform.

This topic is dealt with more in depth in WASH Guidelines for Field Practitioners; Part 1, Community Water Supply and HWTS.

Jerry cans are generally a safe way to store water due to their narrow necks, risk for contamination at household level is limited.

Sufficient water storage capacity at the household level should be there to allow for part of the storage capacity to act as a sedimentation facility.

Sphere 2011 standards recommends provision of one 10-20 liter storage can per household.

5.3.3 Water handling/transport

To assure safe handling of water at household level, direct contact with hands while taking water from storage facilities should be avoided.

While drawing water from ponds, direct contact with the pond should be avoided, which can be achieved by the use of extraction devices like hand pumps.

Jerry cans are again very useful devices to assure safe transportation of water with minimum risk on contamination.

Sphere 2011 standards recommends provision of one 10-20 liter can per household for transport.



Water Storage containers, Mae Tor La village, Thailand

5.3.4 Domestic waste

The safe disposal of domestic or solid waste is critical for public health. Domestic or solid waste is all non-liquid waste generated by human activity.

The SPHERE standard mentions that people should be able to live in an environment that is uncontaminated by solid waste, and that they have the means to dispose of their waste safely.

From health perspective, it should be noted that inadequate management of solid waste attract flies, rats, dogs, snakes and other scavengers to garbage, which in turn increases the risks of spread of diseases.

To tackle this problem, one should first have an idea of the "waste stream" in a community. What types and volumes of waste are there to deal with? Current practices on how solid waste is disposed, and who is responsible for this, should also be looked at. In this stage it should also be assessed if there are any hazardous wastes that require special attention (like medical waste).

A simple but effective way to dispose of solid waste is to dump it in a communal pit.

Where possible, waste can be collected separating biodegradable and non biodegradable items. Special composting



Solid waste management activities developed in Dawbon, Myanmar and Cité Soleil, Port-au-Prince, Haiti

bins or compost refuse pits should be used to hold the biodegradable waste. Malteser International programs in Sri Lanka and Myanmar have experience with this.

The SPHERE 2011 handbook recommends the following considerations for solid waste disposal interventions:

- Involve population in design and implementation of solid waste disposal programme.
- Organise periodic solid waste cleaning campaign
- Consider small-scale business opportunities related to solid waste recycling
- Arrange system for household wise waste collection
- Provide clearly marked and appropriately fenced refuse pits, bins or specified areas.
- Ensure regular refuse collection system is in place

5.3.5 Medical waste

Malteser International has developed a separate Guideline on Medical Waste Management, and reference is made to that document for further detailed information on this topic.

As mentioned in this Medical Waste Management guideline, all medical related

sharps have the potential to cause injury either through cuts or deeper wounds. The potential for contracting infections or diseases is even higher when sharp disposal is contaminated with blood or body related fluids. Sharps include syringes, needles, razor blades, lancets, glass ampoules and pipettes among other sharp laboratory equipment. It is therefore essential to follow clear procedures when working with sharp utensils and when disposing those. The Malteser International Medical Waste Management guideline will help medical staff to prevent potential injuries and related infections by following the guideline and ensure that all relevant staff is informed and trained on the procedures.

You can find information on the following topics in the Malteser International Medical Waste Management guideline:

1. Disposal methods for sharp medical equipment
2. Needle-stick injuries and other exposures
3. Practical aspects of medical waste management
4. Waste area specifics

5.3.6 Domestic animals

In many communities animal rearing is a means of generating food high in protein content and nutritional value, and for generating additional income.

Animals can also provide many other products, such as leather and fuel, that improve the quality of life. However, if it is not practised safely, animal rearing can have negative effects on the health of the community. Animals should always be kept away from households, particularly cooking areas and drinking-water sources, since their excreta contain pathogens that can contaminate food and water. Preferably, animals should be kept in compounds at least 100 metres from water sources and 10 metres from houses. Animal waste should be disposed of properly, away from homes and water sources, or be used as a fertilizer. It is

also best that animals are slaughtered away from households and water sources, since the offal and wastes may introduce contamination. Slaughtering must be carried out by qualified individuals who follow the country laws governing slaughter practices..

Some disease vectors prefer animal hosts to humans. Pigs, for example, can be reservoirs of Japanese encephalitis, dogs can be reservoirs of leishmaniasis, and some mosquitoes prefer to feed on cattle rather than humans.

Placing animal shelters between mosquito breeding places and the village may therefore provide some protection against malaria transmission.

In areas with a lot of livestock, special provisions should be made for watering animals in a way that this does not interfere with hygienic drinking water collection for humans. This issue is addressed more in detail in the chapter on Multiple Use Systems (MUS) in the Malteser International WASH Guidelines, part 1; Community Water Supply and HWTS.

5.4 Food hygiene

Foodborne illnesses happen in all parts of the world, and the toll in terms of human life and suffering is enormous.

Although everyone is susceptible, infants and young children, pregnant women, and the elderly are more likely to experience foodborne illness with severe consequences.

In developing countries, foodborne diseases are a primary cause of malnutrition, which then affects the growth and disease resistance of infants and children. Malnourished infants and children are more vulnerable to a range of ailments, such as respiratory infections, which can contribute to further malnutrition and disease.

Foodborne diseases create an enormous burden on the economy. Consumer costs include medical, legal, and other expenses, as well as absenteeism at work and school. For many consumers who live at a subsistence level, the loss of income due to foodborne illness can continue the cycle of poverty.

Box with example from Middle Island, Myanmar

Train food vendors and tea house owners on food hygiene and prevention of food and water borne diseases and supervise and support implementation of good practices

All the tea shop owners and food vendors of Malteser International's target area in Middle Island have been identified and a baseline survey was carried out to identify compliance of behaviours to the WHO 5 keys food safety method. The 5 keys cover the most important rules regarding clean and safe food:

1. Keep clean: wash hands, surfaces and keep the kitchen area clean of dirt and animals,
2. Separate raw and cooked food, store in safe containers and use separate utensils,
3. Cook and reheat food thoroughly,
4. Store food at safe temperatures and for short periods only and
5. Use safe water and wash food prior to usage.

All the tea shop owners and food vendors had been contacted and sensitised on food safety by the Malteser International health educators. Two day training on the WHO 5 keys to safe food method was organised with a total of 39 participants. At the end of the training each food vendor/tea stall owner decided on some food safety behaviours he/she would like to work on during the coming months and drafted an action plan. They noted down their promises and displayed the commitment in their shops in order to be reminded at all times.

Malteser International distributed the following material to the tea shop owners to keep up with their action plans: big plastic buckets, small plastic buckets, garbage bins, table cover sheets, food cover clothes, jerry cans and cream soap. There have been regular follow up visits to monitor the implementation of the cleaner and healthier behaviour and the usage of the donated material.

Refresher training for food vendors was organised and attended by 32 shop owners. For the upcoming two month the Health Educator announced a final assessment which resulted in the selection of the winner of the training, the tea shop that follows the rules best and which has changed the most, and an award will be given.

The final event included an award giving ceremony. The criteria for selecting the winners included the following: Environmental cleanliness of the shop, kitchen cleanliness, utensils cleanliness, general food and water safety as well as the personal hygiene of the seller. The winner was given a hand washing basin, the runner up received a glass food showcase and the consolidation prizes were dust bins.

Feedback from clients of the food vendors and tea houses was positive, and they felt encouraged to buy more food items from them in the future.



Winning restaurant in Ma Gyi Pin



Tea Shop with commitment display in Ka Nyin Ngu

Behavioural change

6.1 General

Traditionally, focus of hygiene related programme activities was very much on the education part, with messages to the audience on a wide range of health related subjects rather than changing behaviour. Often such messages focused on avoidance of illness as a motivator. Such programmes were largely implemented at the community and household level, and were therefore not at scale. Such approaches turned out to be successful in maintaining awareness in these communities, but not effective in achieving behaviour change at scale, mainly due to its high dependence on extension workers and high costs.

Currently, the following Key Principles¹⁶ are recognised for successful hygiene promotion programmes:

Target a small number of risk practices.

- Target specific audiences.
- Identify the motives for changed behaviour.
- Hygiene messages need to be positive.
- Identify appropriate channels of communication.
- Decide on a cost-effective mix of channels.
- Hygiene promotion needs to be carefully
- planned, executed, monitored and evaluated.

It is important to realize that in motivation for behavioural change, health gains often are not the top priority. Issues like convenience and following general trends in the community play an important role as well. The link that poor hygiene has to increased medical expenses can also be a motivating factor for people to adopt behavioural change in favor of better hygiene practices.

The eight-step protocol for behavior change:¹⁷

1. Defining target behavior and population: The behavior to be changed and the target population must be defined exactly. Which and whose behaviors require improvement?
2. Formative research: Research should be conducted to get a first impression about the favoring and hindering conditions of the behavior in question
3. Identifying behavioral factors: The relevant behavioral factors must be identified. Behavioral factors are sufficiently defined in the RANAS Model mentioned here under, which can serve as a blueprint.
4. Measuring behavioral factors: The behavioral factors – together with intention, habits, and the performance of the behavior- have to be measured with a questionnaire or by observation. KAP/B surveys, as mentioned in Annex 2 can be a useful tool for this.

5. Defining target factors: The relevant factors that actually steer the behavior should be identified using statistical analysis. Analysis of factor frequency indicates which factors are to be improved and which are already at a behavior-favoring level.
6. Defining interventions: Interventions to change the target behavioral factors should be defined. This can be done with the framework of the RANA model.
7. Evaluating interventions: The effects and effectiveness of the interventions must be evaluated by conducting a survey. The main task is to measure the target behavior. Direct observations are preferred where possible.
8. Evaluating sustainability: To determine the lasting effects of the interventions, practitioners must measure behavioral factors 6-12 months after the last intervention to assess sustainable change.

The success of hygiene behaviour change programmes depends on the capacity and willingness of people to change their behaviour. The overarching question is "which specific promotion activities are the most effective in changing perceptions and beliefs about hygiene actions like handwashing with soap, and are thus capable of changing handwash behaviour at key times.

¹⁶ Well Fact sheet: fallacies and key principles of hygiene promotion, [www.lboro.ac.uk/well/resources/fact-sheets/fact-sheets-htm/hp.htm]

¹⁷ Eawag: H Mosler, Adapted from "A Systematic approach to behavior change interventions for the water and sanitation sector in developing countries", International Journal of Environmental Health Research 2012" p 13

6.2 RANAS

The RANAS¹⁸ behaviour-change model¹⁹ follows a set of key factors that influence a person's decision to change habits and practices, which can be grouped as follows:

- **Risk factors**, relating to perceived vulnerability
- **Attitude factors**, how a person thinks and feels on an issue (including what is considered attractive or disgusting)
- **Norm factors**, as social expectations from the community
- **Ability factors**, relate to a person's sense of what is possible to accomplish
- **Self-regulation factors**, include the ability to stay focused and persist, and be committed to change

This set up is reflected in the diagramme below:

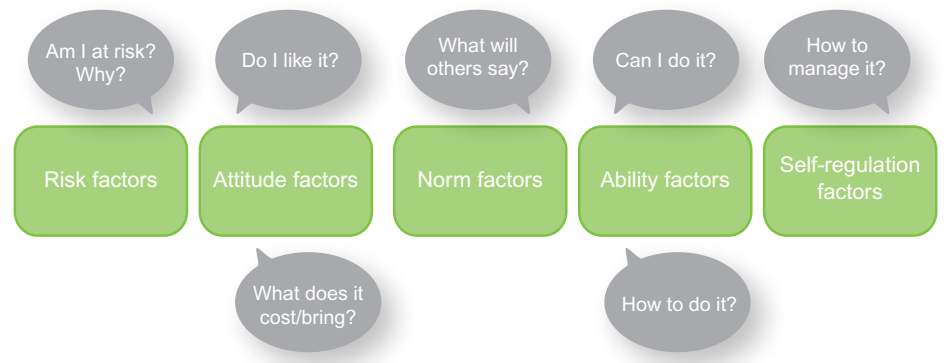
From this diagram we can learn that there are many aspects we need to consider if we are to achieve sustainable behaviour change. An Oxfam supported study¹⁹ in Haiti in the aftermath of the cholera epidemic there revealed that attitude, ability and norms seemed to be the most important factors to change HWS behaviour, and surprisingly not issues related to knowledge and beliefs about the risks of cholera.

The Red Point method, mentioned in Annex 2 can play an important role in the behaviour change process as well.

The five blocks of factors need to be favorable to the new behavior in order for it to take root.

Interventions should be corresponding with the factor blocks²⁰.

The RANAS model focuses on changes that can be realized by the households themselves. The model appears to be most valuable in contexts where households are able to change the conditions of their daily life on their own and do not depend on help from outside.



6.3 The Health Belief Model (HBM)

The Health Belief Model (HBM)²¹ is a psychological model that attempts to explain and predict health behaviors. This is done by focusing on the attitudes and beliefs of individuals. The HBM was first developed in the 1950s by social psychologists Hochbaum, Rosenstock and Kegels working in the U.S. Public Health Services.

Core assumptions and statements

The HBM is based on the understanding that a person will take a health-related action (use of toilet, treatment of drinking water, handwashing with soap) if that person:

1. feels that a negative health condition (i.e., diarrhoea) can be avoided,
2. has a positive expectation that by taking a recommended action, he/she will avoid a negative health condition (i.e., handwashing with soap will be effective at preventing diarrhoea), and
3. believes that he/she can successfully take a recommended health action (i.e., install and operate a handwashing station near the latrine).

The HBM was spelled out in terms of four constructs representing the perceived threat and net benefits: perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. These concepts were proposed as accounting for people's "readiness to act." An added concept, cues to action, would activate that readiness and stimulate overt behavior. A recent addition to the HBM is the concept of self-efficacy, or one's confidence in the ability to successfully perform an action.

The strength of this method is its common-sense approach, which make it easy for non-psychologists to assimilate and apply

Weakness is however that the method neglects social factors to some extent, which are a crucial factor in hygiene interventions. It may also be responsible for "blaming the victim" for his/her poor hygiene related illness when factors are beyond the individual's control.

Table from "Theory at a Glance: A Guide for Health Promotion Practice" (1997)

Concept	Definition	Application
Perceived Susceptibility	One's opinion of chances of getting a condition	Define population(s) at risk, risk levels; personalize risk based on a person's features or behavior; heighten perceived susceptibility if too low.
Perceived Severity	One's opinion of how serious a condition and its consequences are	Specify consequences of the risk and the condition
Perceived Benefits	One's belief in the efficacy of the advised action to reduce risk or seriousness of impact	Define action to take; how, where, when; clarify the positive effects to be expected.
Perceived Barriers	One's opinion of the tangible and psychological costs of the advised action	Identify and reduce barriers through reassurance, incentives, assistance.
Cues to Action	Strategies to activate "readiness"	Provide how-to information, promote awareness, reminders.
Self-Efficacy	Confidence in one's ability to take action	Provide training, guidance in performing action.

¹⁸ H.J. Mosler, "A Systematic, Approach to Behavior Change Interventions for the Water and Sanitation Sector in Developing Countries; A Conceptual Model, a Review and Guideline, in *International Journal of Environmental Health Research* (accepted)

¹⁹ Oxfam: [<http://www.sanitationupdates.files.wordpress.com/2012/04/oxfam-handwashing-research-haiti-2012.pdf>]

²⁰ Eawag: H Mosler, *A Systematic approach to behavior change interventions for the water and sanitation sector in developing countries*, *International Journal of Environmental Health Research*, 2012, p 5

²¹ Twente University: [http://www.utwente.nl/cw/theorieenoverzicht/theory%20clusters/health%20communication/health_belief_model.docx]

Hygiene behaviour change planning

General

Before starting to plan hygiene behaviour change interventions, the reference points of where the community is at the moment in regards to hygiene practices should be established. KAP/B surveys are a useful tool for this. The methodology is described in Annex 2.

7.1. Key principles²²

- Target a small number of risk practices.
- Target specific audiences.
- Identify the motives for changed behaviour.
- Hygiene messages need to be positive.
- Identify appropriate channels of communication.
- Decide on a cost-effective mix of channels.
- Hygiene promotion needs to be carefully planned, executed, monitored and evaluated.
- Assess existing (governmental) hygiene initiatives and link up with them
- Ensure gender balance of hygiene promotion interventions

7.2 Hygiene behaviour transformation programme components

Components or methodologies that can be used for hygiene promotion vary from location to location according to the education, culture, religion, age group and level of understanding of respective community. The most suitable methodologies can be identified after the initial assessments (KAP and Focus Group Discussion, (FGD)) and apply after field testing.

Participatory hygiene promotion is based on discovery learning. Discovery learning means that people learn by active

participation and experience. There are various methods to achieve this:

Role-play / drama / theatre

The basic idea is that people are asked to play and imitate certain characters in a specific situation. A role-play is spontaneous while in a simulation play all the roles in the play are clearly written down and must be exactly played according to the developed structure before hand.

Role-play is useful for developing practical / social / teaching skills. But it can especially be useful for community awareness in the following:

- Observation and critical analysis of how social and political relations between persons and groups affect people's health and well being

- Looking at attitudes, customs, and patterns of behaviour
- How they affect people's health; how to help people to understand them better.
- Explore alternative solutions to different problems

Those who present it learn twice as much if they also take part in creating or writing it. The story can be developed from the actual ideas and experiences of the participants. The group must invent the story and figure out how to present it in a convincing and locally appropriate way. This helps them to develop skills in planning, thinking, problem solving, organising and communicating. All these benefits are lost when the group simply memorizes a script written by someone else. It is more effective if the message is built on a true story.



Hygiene Promotion, Mae La Na school, Thailand

²² Well Fact sheet: fallacies and key principles of hygiene promotion, [www.lboro.ac.uk/well/resources/fact-sheets/fact-sheets-html/hp.htm]

Visual aids

Visuals are one arm of education. They save teaching time, help memory and can stimulate the imagination. Pictures can be used for teaching skills step by step or for telling stories. Better than telling stories is to let children discover / tell what they see happening in the picture. Pictures are highly effective if the learning group helps to make them and adapt them to (events in) the local situation;

Video

Videos are useful because they come close to the real thing. However it is often difficult to find relevant material that is culturally appropriate to the particular situation. When locally made, they can be a very powerful teaching aid if people are exposed to this medium. The use of Meena cartoon video in Sri Lanka could be made available for use in schools with appropriate resources. This video shows a series of good hygiene practices, targeting school children. It is essential to have the opportunity for a wrap-up to assure that education messages in the video have been well understood. This can be done through summarising new information, prevention methods etc or through a quiz with the participants.

Stories

Stories are best in small groups, with the group taking part in the discussion afterward. Different ways to teach with stories are:

a) Parables – or stories with a moral

Some stories teach a lesson, or moral, which is stated at the end. These can be make-believe stories with animals (fables), imaginary stories about people, or true stories.

b) Stories that help people to think about local problems

If the story points to an existing problem it may help people to think about, reflect on and discuss the difficulties. Stories build on the impact of the spoken word. People can identify with the characters and abstract ideas can be expressed in everyday terms. People will remember information better when it is presented in a story format. This could also be called a problem solving method

Comparison

By showing two different things we can compare similarities and differences. In raising questions about it and by having a discussion it can become clear what is good and bad and what changes are needed.

In Myanmar, Mother Support Groups (MSG) use cards with different hygiene behaviours. Each participant takes a card and has to tell whether this is good or bad behaviour and why this is the case. Some sample cards can be seen in Annex 3.

Radio / Audio tape

This is a very good media source to pass on hygiene messages. However there is a need to ensure the messages are followed up with discussion. Just giving information does not mean people will put in to practice what they are hear.

There is no way to evaluate if people have understood the message unless there is discussion afterwards.

In a pastoralist context, like the Malteser International project in Illeret, Kenya (FM) Radio stations can be effective to communicate with a semi-nomad population scattered over a big area.

Song

Songs have been proved to be a good and joyful tool in spreading simple health messages. In Middle Island, Myanmar, the Malteser International team developed songs for school children and they learnt them together.

Games/puzzles/quiz

Games have recently become very popular in training. They make learning enjoyable. A quiz for example encourages repetition and therefore reinforced learning is practiced. Several health games have been invented like: health education snakes and ladders, memory games, puzzles, moving counters across a board, question and answer games, competition games, etc.

On a weekly basis schools can be involved in a health and hygiene quiz by reading locally produced articles and entering the competition with their answers to specific hygiene questions.

Competition

Competition can be encouraged through games, between groups for the best results etc. Competition can be a good motivator. In 23 villages, competitions were organised for the "cleanest house." In each village, a committee was formed, consisting of voluntary health workers and Malteser International health promoters. All families were able to participate in the competition and were then visited after the registration of the committee. The behaviours practiced in relation to the "4-cleans"

(clean hands, clean drinking water, clean food preparation and clean latrines) were observed. The families were rated on a point system and the best family then reported their usual hygiene measures at a village festival, when small prizes like soap and water disinfectants were distributed.

Demonstration

Demonstration is a lesson where the visual aid approaches reality as nearly as possible. A written step by step list of sub tasks should be available to refer to during the demonstration session. Demonstration is a teaching skill and like all skills it needs practice. Whichever form of demonstration is used, the participants should not be just passive observers. They should be given specific points to look for and the demonstration should be reviewed after it is completed.

Observation checklists can make it all the more valuable.

Qualifications of a good demonstration are:

- a) Visible to all participants
- b) As similar as possible to the real situation
- c) Use of real materials
- d) Proceed precisely step by step
- e) The educator explains / describes what he / she is doing and why.

Demonstration is mostly used by teaching specific knowledge / skills.

In Myanmar they practiced a clear demonstration to show the effectiveness of washing hands with soap. One participant used soap for handwashing, the other one only water. Afterwards they dry their hands with white tissue to demonstrate how clean the hands are, and compare the result.

Puppets

Puppets are a form of play-acting using small models (puppets or marionettes) or sometimes masks or giant heads to act stories or messages.

Puppets can be used both for adults and children using locally available resources. It is possible for puppets to say things on sensitive topics that it would be unacceptable for an actor to say in a drama. People are more likely to accept criticisms of traditions and institutions. Therefore puppets can be used for dealing with controversial topics such as HIV/ AIDS, puberty, sex education. As with drama, puppets have most impact when the community participates in the

preparation of the programme, performing the show and discussion afterwards.

Peer group / Child to Child

A peer is a person who is equal to others in status (position) or who is of the same age as others. Peer teaching means that one acts as a teacher of the other(s). The attitudes of peer group members are powerful role models that may influence attitudes among the group. The child to child concept believes that children can gain information and knowledge to pass onto others and influence other children in making improved decisions regarding healthy practice.

Exchange visits

It is also an advantage if children can share experiences with others. Inter-school Competitions can be organised on a common theme and children encouraged to take part. Viewing successful practices in schools can also stimulate children to new activities.

7.3 IEC materials development

Information Education and Communication (IEC) materials for community education need to be designed specifically for teaching different community groups about water, sanitation and hygiene. IEC materials can include picture posters and picture card activities that can be used with adults, youth or children. Collections need to be tailor-made for the target community. CAWST (Centre for Affordable Water and Sanitation Technology) has developed six regional styles: Africa, Caribbean, Latin America, South Asia, South East Asia, and South West Asia. - See more at: <http://resources.cawst.org/collection/wash-resources-community-education>

You may distribute, remix, tweak this resource as long as you credit CAWST for the original creation. So, it is a good starting point for developing your own project specific IEC materials.

Some examples of IEC materials in support of hygiene related activities

Posters:

Water, sanitation and hygiene (WASH) posters to teach about good WASH practices, including household water treatment technologies.



Hygiene campaign, Mae Tor La village, Thailand

Fact sheets:

Water, sanitation and hygiene (WASH) fact sheets to teach about good WASH practices, including household water treatment technologies.

Materials for sanitation ladder activities:

The sanitation ladder helps people to identify options for improving sanitation in their community and realize that this can be a gradual process.

This activity helps participants to:

- Describe the community's sanitation situation
- Identify options for improving sanitation
- Discover that improvements can be made step-by-step

Materials for three pile sorting activities:

This activity allows participants to exchange information and discuss common water, hygiene and sanitation practices according to their good and bad impacts

on health. The aim is not to test people's knowledge or to correct personal habits, but rather to provide a starting point for a discussion of local hygiene and sanitation beliefs and practices.

This tool can be used to:

- assess people's understanding of water, hygiene and sanitation practices and the impact on health
- provide a way to explore issues about water, hygiene and sanitation
- start discussions about local beliefs and practices

Materials for transmission route activities:

This tool educates people about faecal-oral transmission routes using the F-Diagram and how controls can be used to block the disease transmission routes. The name "F-Diagram" only works in English and stands for faeces, food, flies, fields, fingers, fluids, and face. Call this activity transmission routes or something similar in another language.



Social mobiliser using IEC materials for community level hygiene promotion session, Bardia district, Nepal

This tool can help participants discover and analyze how diarrheal disease can be spread through the environment.

7.4 Methodology

Steps of planning hygiene promotion programs are shown in the graph on the right.

7.5 Role of health and hygiene educators

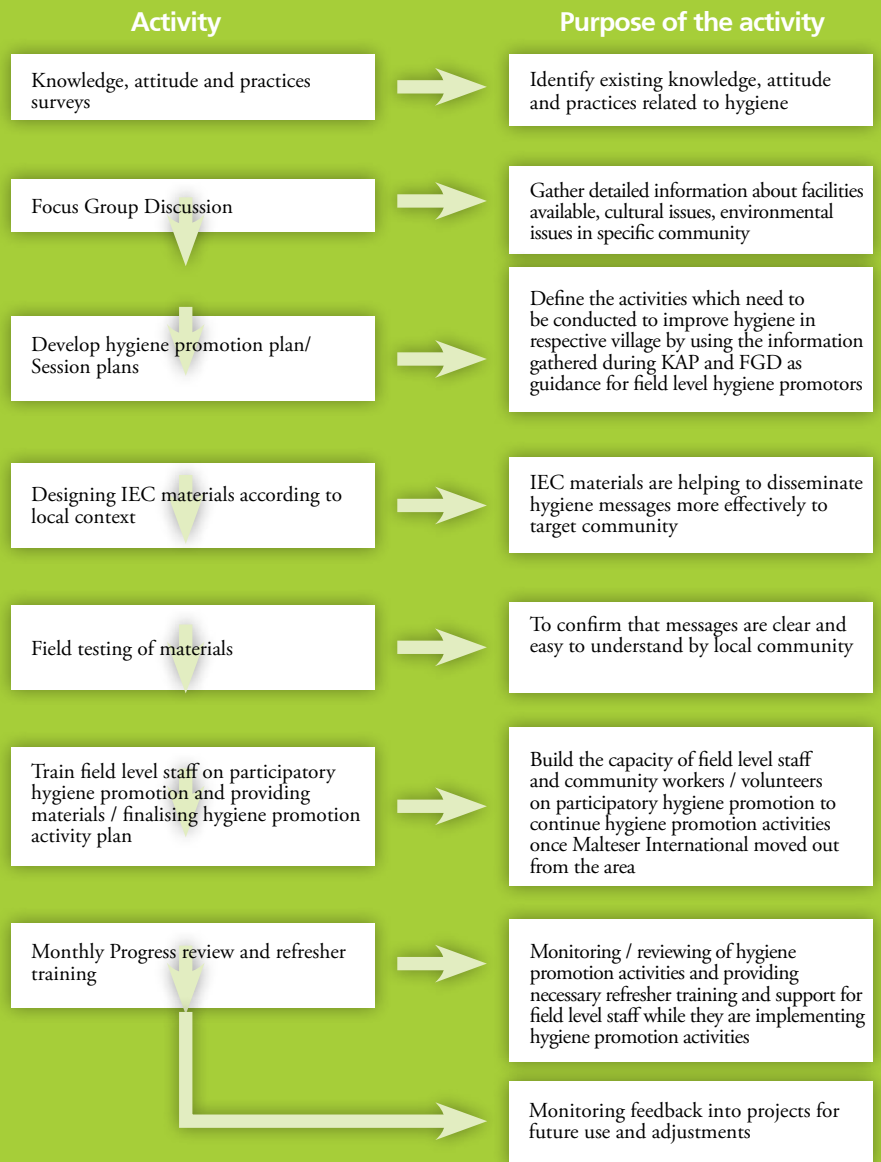
As we are dealing with behavioural change when it comes to changes in hygiene practices, it is of crucial importance that all staff that interact with the communities act as role models. Hygiene related training for all staff is important so that they know all sound hygiene behaviour practices, and the management should follow up on its application by its staff. If staff show good hygiene practices, this creates an environment for the community that they are more likely to adapt to hygiene related changes.

It can be considered to give hygiene related training to staff of all agencies working in the target area. As government and other agency staff often are respected in the target area, their behaviour will be observed by the communities. The other way round this is also true, a staff member not washing his or her hands with soap before having food, loses all credibility in passing on such hygiene message to the community.



Handwash promotion, Bardiya, Nepal

Steps of planning hygiene promotion program



Results from the above process can be used to apply sanitation promotion approaches like CLTS (Community-Led Total Sanitation), which is described in detail in the WASH Guidelines for field practitioners; part 2 Sanitation, p 51. More participatory WASH methodologies that can be used to support hygiene change behaviour can be found in Annex 2.

The process outlined above can also feed into the Communication for Behavioural Impact (COMBI) method. This is a planning framework and implementation method for communication based on behavioural models and communication and marketing theory and practice to achieve behavioural results in public health programmes. The COMBI method and application is described in detail in the "Field workbook for COMBI; planning steps in outbreak response"²³, developed by WHO, UNICEF and FAO.



Jerry can distribution for typhoon affected community, Amandayeban village, Samar Province, Philippines

²³ WHO: [http://apps.who.int/iris/bitstream/10665/75170/1/WHO_HSE_GCR_2012.13_eng.pdf]

Effectiveness of hygiene behaviour change

6.1 Contribution to good health²⁴

Effective hygiene promotion reduces the main risky hygiene practices and conditions in the community. Its primary aim is to improve health.

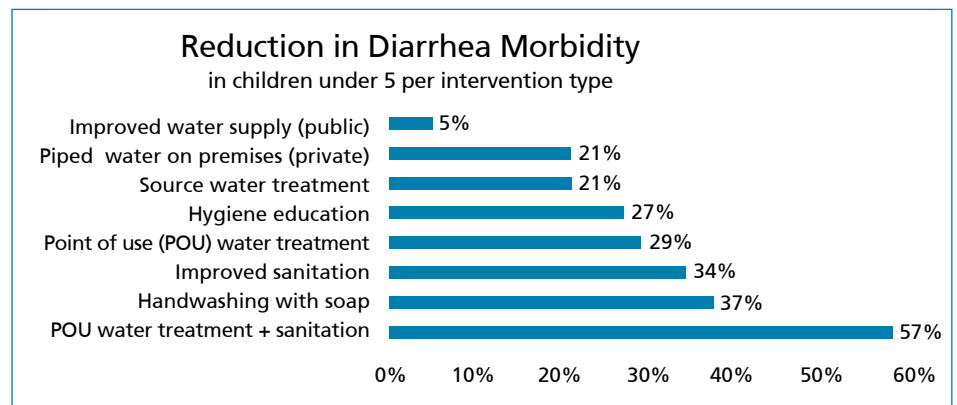
The diagramme²⁵ to the right shows that, to reduce diarrheal morbidity in children under five, hygiene education is equally effective as point-of-use treatment and five times more effective than improved water supply. The diagramme also clearly shows the strength of combining hygiene promotion with the provision of water and sanitation services.

WASH Cost working paper 6 also indicates that hygiene programs need to be an integral part of water supply and sanitation interventions in order to achieve behaviour change. Water and sanitation facilities are needed in support of hygiene promotion interventions.

Diarrheal disease and respiratory infections

Today, diarrheal disease and respiratory infections are the two biggest killers of children in the developing world.

Washing hands with soap can significantly cut the risk of diarrhea (from 30 percent to 50 percent, Fewtrell et al., 2005) and that of respiratory tract infection (from 21 percent to 45 percent, Curtis and Cairncross, 2003).



UNICEF estimates that diarrhea kills one child every 30 seconds. Scientific research shows that handwashing with soap prevents disease in a more straightforward and cost-effective way than any single vaccine.

Handwashing with soap works by interrupting the transmission of pathogens that cause disease. Hands often act as vectors that carry disease-causing pathogens from person to person through direct contact or indirectly via surfaces and food. Together, soap and water form an excellent way to combat a host of other illnesses, such as Helminthes (worms), eye infections like Trachoma, and skin infections like Impetigo.

Acute respiratory infections such as pneumonia are another primary cause of child deaths. Handwashing reduces the rate of respiratory infections in two ways: by removing respiratory pathogens found

on hands and surfaces; and by removing other pathogens (in particular, enteric viruses) found to cause diarrhea and respiratory symptoms. Evidence suggests that better hygiene practices – washing hands with soap after defecation and before eating – could cut the infection rate by about 25 percent.

A study in Pakistan found that handwashing with soap reduced the number of pneumonia-related infections in children under five by more than 50 percent, as well as skin infection – impetigo – by 34 percent.

Intestinal worm infections

Research shows that handwashing with soap reduces the incidence of infections like intestinal worms, especially ascariasis and trichuriasis. While more evidence is needed, existing research points to the effectiveness of handwashing in reducing the incidence of these diseases.

²⁴ *Public-Private Partnership for Handwashing (PPPHW): [http://www.globalhandwashing.org/why/health-impact]*

²⁵ *IRC: A. Potter et al., WASH Cost, Working paper 6, The Hague, December 2011*

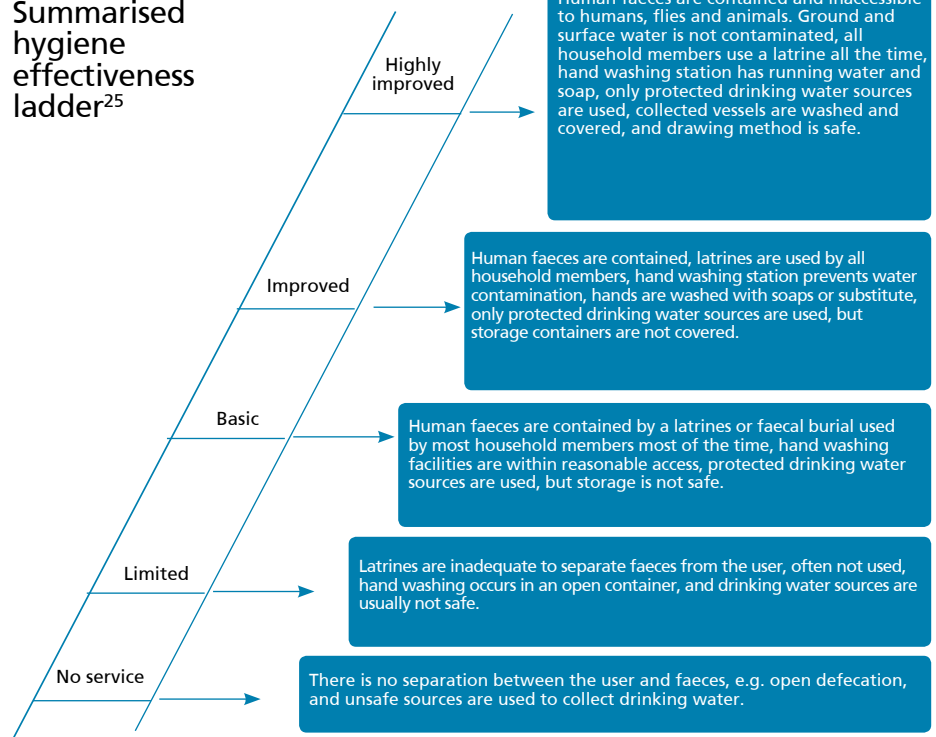
6.2 Levels of hygiene effectiveness

The “hygiene effectiveness ladder” is the equivalent of the more commonly known sanitation ladder for hygiene status of a community. It provides a good starting point to “scale in” a community to know their hygiene status and practices, as a starting point for developing hygiene promotion interventions.

The hygiene effectiveness ladder is based on three key indicators:

- Use of sanitary facilities for the disposal and containment of human excreta;
- Hand washing with soap or substitute at critical times
- Use of improved water supply services, systems and methods for the effective treatment, safe storage and drawing of drinking water in the household.

Summarised hygiene effectiveness ladder²⁵



Thailand: Daily hand washing and tooth brushing for school children in refugee camps

Infectious diseases and dental caries are common in the Karen and Myanmar refugee camps located at the Thai-Myanmar border. Especially children are susceptible. A multitude of reasons contribute to the high prevalence, such as restricted (or limited) availability of hand washing facilities and poor knowledge on (dental) hygiene practices. Furthermore, the forested environment – prone to either flood or excess heat – enables water borne and soil-transmitted diseases through the spread of dust and dirt.

In order to tackle these shortcomings, Malteser International implements a hygiene program in eight schools located in the two camps where MI works. Children are considered as the ideal target group since they are more receptive to behavior change and act as messengers regarding the dissemination of good hygiene practices to their families and the wider community.

The hygiene program includes the improvement of the hygiene infrastructure as the schools were lacking hygiene facilities. Therefore special roofed shelters were constructed. The shelters – consisting

of a water tank, a pipe system and a long sink – can accommodate up to 16 children at a time. Students use water that comes out of a main pipe with little holes through which the water flows down to the sink once the main tap has been opened.

On the other hand it comprises activities concerning hygiene behavior changes. Dental health workers (DHW) were recruited and trained practically and theoretically in tooth brushing and hand washing techniques. The DHWs disseminate now the practices to the students.

Selected teachers assist the DHWs in the facilitation, especially in the difficult task of organizing the ca. 50 children per school. At the same time these teachers also gain knowledge on the prevention methods and can further educate and encourage the children to follow good hygiene practices. Moreover, specifically designed posters displaying the correct steps and techniques of tooth brushing and hand washing are displayed at the shelters. These do not only guide the DHWs and teachers in the facilitation but also enhance the children’s knowledge on hygiene and oral health.

The activity reaches over 400 grade-4 students who brush their teeth and wash their hands with locally produced soap every morning before school starts. The

children enjoy the activity that provides a fresh and healthy start of the school day. The program considerably contributes to the reduction of hygiene-related diseases, especially the rates of diarrhea incidents, respiratory infections and tooth decay. What is more, the improved health situation has a positive impact on the children’s academic performance as they are more able to focus and less absent from school.



School handwashing practice, Thailand

Enabling environment for hygiene promotion

An enabling technology is an external or environmental factor that influences an individual's opportunity to perform a behaviour, regardless of their ability and motivation to act. (Waterlines, Volume 29, number 4, October 2010, "Teaching schoolchildren about handwashing: Experiences from Zimbabwe", p 337-342).

9.1 Access to water

Access to water is necessary to support hygiene interventions:

- Handwashing with soap
- Latrine cleaning
- Bathing

The SPHERE 2011 Handbook (p 98) recommends the following basic survival water needs, depending on social and cultural norms.

There is a direct link between the access to sufficient quantities of water and water-washed (or water scarce) diseases that are transmitted from person to person due to lack of water for hygiene. Skin and eye infections like scabies and trachoma are some examples of this.

Survival needs: water intake (drinking and food)	2.5-3 liters per day	Depends on the climate and individual physiology
Basic hygiene practices	2-6 liters per day	Depends on social and cultural norms
Basic cooking needs	3-6 liters per day	Depends on food type and social and cultural norms
Total basic water needs	7.5-15 liters per day	

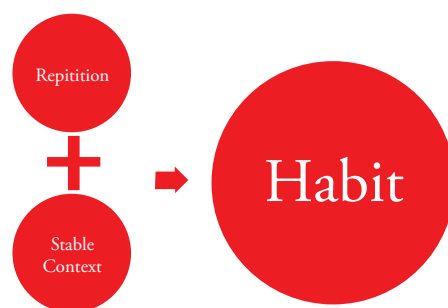
SPHERE Handbook, 2011, p98

Handwashing facilities should be present in the proximity of latrines and kitchens to assure handwashing with soap is practiced at critical moments.

9.2 Handwashing stations

Enabling environment for handwashing

An enabling technology is an external or environmental factor that influences an individual's opportunity to perform a behavior, regardless of their ability and motivation to act. This is an important aspect in the design of handwashing initiatives, as enabling technologies have shown to facilitate handwashing behaviour in several studies.



Habit formation (Verplanken & Wood, 2006)

The enabling environment supports a "stable context" as shown in the picture above, which together with the aspect of repetition will result in developing new habits (handwashing with soap).

As mentioned on <http://www2.wsp.org/scalinguphandwashing/enablingtechnologies/>, enabling technologies for handwashing with soap can be achieved by the following:

Store and regulate the flow of water in sufficient quantity to facilitate handwashing. Tippy-taps – which are devices made from commonly available materials (such as a jerry can suspended on a stand) – are perhaps the best known examples.

Manage or store soap within a household or institution (e.g. school, workplace). It should be managed in a way that prevents theft or spoilage of soap, and to facilitate access. Experiences with soap-water have been positive to avoid misuse of soap at schools in particular. Soap nets, soaps on a rope and soap dishes are example.



Some of the handwashing devices only take a few minutes to make



Example from Malteser International Myanmar

▲ Plastic bottles with screw caps filled with water, and a hole pierced in the bottom, can provide a convenient flow of water when the screw cap is loosened to let air in and allow water to flow from the hole. After washing the hands, simply tighten the screw cap again and the water flow will stop.



Handwash device made from used soda can

Several handwashing facilities that can be easily replicated in Malteser International projects are shown in the article “Teaching schoolchildren about handwashing: Experiences from Zimbabwe”²⁶

9.3 Soap supply/production options

Hygiene promotion can only be successful to the level that the necessary sanitation and water supply related hardware components (including items like soap) are available.

For effective hygiene promotion, the availability of soap is a key issue.

Locally produced soap is preferred as this is easier affordable to poorer families. Production at local level can therefore be promoted if many community members are short of cash and cannot buy soap available in the market in a sustainable way. Soap production can be an effective livelihood activity in communities short of cash, like is often the case in refugee situations. Proper training in soap

production is required as potentially harmful chemicals are involved in the production process.

With practice, soapmaking is not difficult and is suitable as a small scale business. It uses simple equipment and vegetable oils or animal fats as raw materials, each of which is likely to be locally available in most countries.

However, it is more difficult to produce high-quality hard soap. There are also certain hazards in producing soap, which any potential producer must be aware of to avoid injury.

A Practical Action technical brief describes the procedures needed to make a variety of simple soaps and includes a number of recipes for different types of soap.

However, anecdotal evidence suggest that in most communities it is more practical and cheaper to buy cheap commercial soap instead of setting up separate community level soap production units. Refugee and IDP camp settings could be an exception to this, as the people have means of income to buy soap.

What about ash?

- Ash has shown to be as effective as soap “it is the effectiveness of the scrubbing action rather than a specific agent which removes the bacteria from the hands”. (see Hoque et al 1995)
- When using ashes to wash hands is already a custom, it may be easier to just focus on Good Ash

- To “sell” the use of ashes to new users can be hard, or even appear to be counter-intuitive (*this stuff makes my hands dirty!*). It’s easier to find motivators for the adoption of soap products. <http://www.ifh-homehygiene.org/>

9.4 Access to sanitation facilities:

If no latrines are available in a community or to a particular household, this gives a major constraint to safe excreta disposal.

Also, if sanitation facilities at schools are not adapted to the needs of girls in particular, this can result in higher drop out rates of girls from schools.

It is of little use to do hygiene promotion campaigns in communities if it is not accompanied with the provision of the necessary “hardware” components to make it possible to practice newly acquired hygiene knowledge and skills.

9.5 Facilities for menstrual hygiene management

To make school sanitation facilities more user-friendly for menstruating girls the following points should be taken into consideration:

- Build all-in-one latrines and bathing facilities so that girls do not have to walk between blocks.
- Provide a mixture of cubicles within a walled all-in-one unit:
- latrine-only cubicles for urination and defecation;
- bathing-only cubicles which have a sloping floor with drainage holes for wastewater;
- large cubicles containing both a squatting slab for defecation/ urination and a washing area.
- Construct high walls made from solid materials without holes.
- Ensure all cubicle have doors with locks for privacy.
- Provide piped water or a storage tank inside the block and drainage channels/pipes for wastewater.
- Consider using an incinerator inside the block (or a chute to an incinerator located outside the block) that has a non-return trapdoor mechanism.

An example of school WASH facilities that address the menstrual hygiene management needs shown in Annex 4.

²⁶ Waterlines, Volume 29, number 4, October 2010, “Teaching schoolchildren about handwashing: Experiences from Zimbabwe”, p 337-

Hygiene behavioural change in emergencies

Basic principles of WASH promotion in emergencies are the same as in regular context. Main factor of change is that one has to act quickly as often no hygiene facilities are present, which can expose the population at a higher level of risk for diseases. Also, in case of displaced communities, a lower sense of responsibility to keep their immediate surroundings and themselves hygienically clean due to other more basic needs for survival or high levels of stress. To take quick hygiene promotion related action a rapid hygiene assessment needs to be conducted.

Key²⁷ questions for a rapid hygiene assessment:

- What are the most widespread risk behaviours in the community?
- How many in the community show these risk behaviours and who are they?
- Which risk behaviours can be altered?
- Who uses safe practices and what motivates and influences their use?
- What communication channels are available and which are reliable for promoting hygiene?
- What facilities or materials do people need in order to engage in safe practices?
- How much time, money or effort are people willing to contribute to have access to those facilities/materials?
- Where will those facilities/materials be available?
- How will the availability of these facilities/materials be communicated to people?

Based on the findings of this assessment a joint hygiene promotion plan can be developed with the concerned community.



Vouchers for hygiene kits.

Emergency hygiene best practices:

The SPHERE 2011 handbook states that effective hygiene interventions in emergencies should address the following three key factors:

- A mutual sharing of information and knowledge
- The mobilization of affected communities
- The provision of essential materials and facilities

SPHERE Hygiene promotion standard 1:

Affected men, women and children of all ages are aware of key public health risks and are mobilised to adopt measures to prevent the deterioration in hygienic conditions and to use and maintain the facilities provided.

Some related key actions....

- Systematically provide information on hygiene-related risks and preventive actions using appropriate channels of mass communication
- Identify specific social, cultural or religious factors that will motivate different social groups in the community and use them as the basis for a hygiene promotion communication strategy
- Use interactive hygiene communication methods wherever feasible in order to ensure ongoing dialogue and discussions with those affected
- In partnership with the affected community, regularly monitor key hygiene practices and the use of facilities provided
- Negotiate with the population and key stakeholders to define the terms and conditions of community mobilisers

²⁷ WEDC: WEDC/WHO technical paper 10, Hygiene Promotion in Emergencies, Leicestershire, 2013

SPHERE Hygiene promotion standard 2:

The disaster-affected population has access to and is involved in identifying and promoting the use of hygiene items to ensure personal hygiene, health, dignity and well-being.

Some related key actions....

- Consult all men, women and children of all ages on the priority hygiene items they require
- Undertake a timely distribution of hygiene items to meet the immediate needs of the community
- Carry out post-distribution monitoring to assess use of and beneficiary satisfaction with distributed hygiene items.
- Investigate and assess the use of alternatives to the distribution of hygiene items, e.g. provision of cash, vouchers etc..

The SPHERE handbook provides details on key indicators and guidance notes to complement the above information.

SPHERE list of recommended basic hygiene items:

- 10-20 liter capacity water container for transportation, one per household
- 10-20 litre capacity water container for storage, one per household
- 250g bathing soap, one per person per month
- 200g laundry soap, one per person per month
- Acceptable material for menstrual hygiene, e.g. washable cotton cloth, one per person

SPHERE 2011 Handbook appendix 1, p 125, provides a very useful checklist for a hygiene promotion related initial needs assessment in emergencies.

While there are many factors that can help prevent diarrheal infection, evidence suggests that the two main factors are:

1. Hand washing with soap or ash after contact with faeces.

2. Safe disposal of adults' and children's excreta. These are the two most important practices that you need to promote to prevent diarrheal infection in the initial emergency response²⁸.

Good practice note:

Given the fact that handwashing with soap is a very effective WASH intervention, with 40% reduction (chapter 5.1.1) in diarrhea morbidity in children under 5, extreme caution should be taken in reducing soap distribution below SPHERE standards.

IJÈN KAP EDE NOU VIV AN SANTE

Èwè dlo ki trete ak Jif, kloròks, Aquatab ou bouyi .



Fason pou nou lave men nou



Jete fatra yo nan poubòl



Lave men nou ak dlo trete, ak savon



Toujou fè bezwen nou nan latrin



Malteser International IEC materials from Haiti



Distribution of Jerry cans and hygiene kits to typhoon affected community, San Antonio village, Samar Province, Philippines

Hygiene Kit Contents developed by WASH Thematic Working Group (TWG) Pakistan

TWG Recommended (Minimum Family Hygiene Kit for One Month), Flood Relief

Qty	Item	Description
WASH Consumables		
7	Bars of Body Soap	250g (As per SPHERE standards)
7	Bars of Laundry Soap	200g (As per SPHERE standards)
7	Tooth Paste	100g/75ml Tubes (As per SPHERE standards)
7	Tooth Brushes with caps	(As per SPHERE standards)
2	Menstrual Cloth	Pieces of cotton flannel cloth (Highly absorbent, size 1m x 1.5m) or similar
WASH NFIs (One time items)		
2	Towels	100% cotton, size: 18"x30" Approx.
1	Nail Clipper	One time item
2	Comb	Family Size
1	Lice Comb	
1	Water Bucket with lid	10 litres
1	Mug with handle	1 litres
1	Lota	Medium size, made of fresh plastic.
Recommended Items		
1	Plastic Tub	20 litres
1	Dish Washing Soap	500g
Kit for a family of 7 members		

²⁸ UNICEF: Behavioural Change in Emergencies; A Toolkit, [http://www.bvsde.paho.org/texcom/desastres/unicco4.pdf], p 64

Hygiene and epidemics

11.1 Cholera prevention

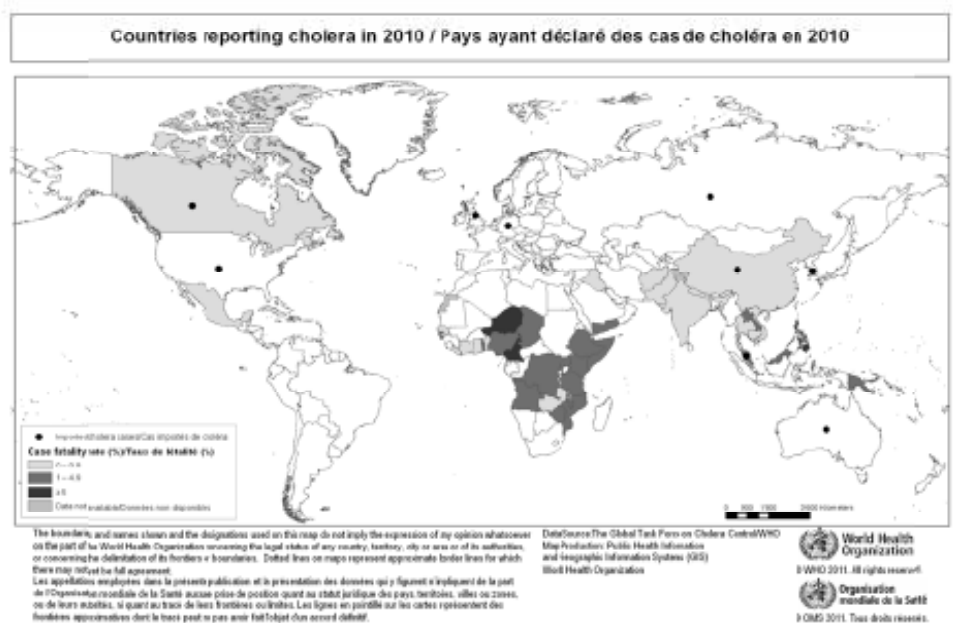
Definition:

Cholera is an acute diarrheal infection caused by ingestion of food or water contaminated with the bacterium *Vibrio cholera*.



History:

- During the 19th century, cholera spread across the world from its original reservoir in the Ganges delta in India.
- Six subsequent pandemics killed millions of people across all continents.
- The current (seventh) pandemic started in South Asia in 1961, and reached Africa in 1971 and the Americas in 1991.



- Cholera is now endemic in many countries, in 2009 45 countries reported cases (source: CDC)

Disease burden:

- 3 – 5 mio cases/ year, 100.000 – 120.000 deaths/ year
- Evidence that climate change/ global warming creates favourable environment for the bacteria (source: WHO)
- Incubation period: 2 hours – 5 days

potential for fast spreading outbreaks

- Transmission: contaminated water or food

Closely linked to inadequate environmental management

- Ca. 75% of people infected with *V. cholera* asymptomatic but bacteria present in their faeces for 7–14 days after infection
- 5 – 10% develop severe disease

Treatment:

- Up to 80% of patients can be treated with Oral Rehydration Solution (ORS)

Oral cholera vaccines have been recommended so far only in endemic situations. Currently studies are carried out using cholera vaccinations in emergency settings to assess its effectiveness and efficiency, but so far this has not led to any conclusion.

Severely dehydrated patients:

- iv-fluid
- Antibiotics
- Mass treatment with antibiotics not recommended
- With proper treatment case fatality rate below 1%, otherwise between 25 and 50%

Response:

- A multidisciplinary approach based on prevention, preparedness and response, along with an efficient surveillance system, is key for mitigating cholera outbreaks, controlling cholera in endemic areas and reducing deaths.

WASH activities to prevent Cholera :

1. Only use water that is treated. Water containers need to be kept covered to keep the water clean. Drawing water from the container in an unhygienic way can contaminate the water.
2. All family members, including children, need to wash their hands thoroughly with soap and water after contact with faeces, after contact with faeces or vomit of sick persons, before touching food, and before feeding children.
3. All excreta, and especially excreta and vomit of sick persons should be disposed of safely.

As a preparedness measure, it is recommended to develop necessary camp level cholera / diarrhea outbreak treatment centres. Cholera can kill people in a few hours time, so treatment should happen immediately, and at a separate location to avoid the disease from spreading further among the population.

(From: SPHERE 2011, p 132)

Details on Minimum hygiene, sanitation and isolation activities Annex 5.

11.2 Other epidemics

H1N1 Influenza²⁹

H1N1 is a flu virus. When it was first detected in 2009, it was called “swine flu” because the virus was similar to those found in pigs.

The H1N1 virus is currently a seasonal flu virus found in humans. Although it also circulates in pigs, one cannot get it by eating properly handled and cooked pork or pork products.

H1N1 flu, is spreading from person-to-person. To help to stop this flu, it is recommended to cover your nose and mouth with a tissue when you cough or sneeze, then throw the tissue away.

Wash your hands often with soap and water, especially after coughing or sneezing. If you're sick, stay home and limit contact with others to keep from infecting them.

Avian Influenza

Avian influenza refers to the disease caused by infection with avian (bird) influenza (flu) Type A viruses. These viruses occur naturally among wild aquatic birds worldwide and can infect domestic poultry and other bird and animal species. Avian flu viruses do not normally infect humans. However, sporadic human infections with avian flu viruses have occurred.

The CDC³⁰ recommends that the best way to prevent infection with avian influenza A viruses is to avoid sources of exposure whenever possible. Most human infections with avian influenza A viruses have occurred following direct close or prolonged contact with sick or dead infected poultry.

People who work with poultry or who respond to avian influenza outbreaks are advised to follow recommended biosecurity and infection control practices; these include use of appropriate personal protective equipment and careful attention to hand hygiene.

Measles³¹

Measles is a highly contagious viral disease causing skin rash followed by flu like symptoms and can cause serious complications until death. The disease of measles and the virus that causes it share the same name. The disease is also called rubeola.

Measles causes fever, runny nose, cough and a rash all over the body. About one out of 10 children with measles also gets an ear infection, and up to one out of 20 gets

pneumonia. For every 1,000 children who get measles, one or two will die.

Measles spreads through the air by breathing, coughing or sneezing. It is so contagious that any child who is exposed to it and is not immune will probably get the disease. Vaccination is recommended to prevent the spread of the disease.

As with any virus, good personal hygiene is important to help prevent the spread of disease³², including washing hands regularly, disposing of used tissues, and not sharing eating utensils or drinks. The best prevention, however, is vaccination.

Polio³³

Polio is a highly infectious disease caused by a virus. It invades the nervous system, and can cause total paralysis in a matter of hours. The virus enters the body through the mouth and multiplies in the intestine. Initial symptoms are fever, fatigue, headache, vomiting, stiffness in the neck and pain in the limbs. One in 200 infections leads to irreversible paralysis (usually in the legs). Among those paralysed, 5% to 10% die when their breathing muscles become immobilized.

Polio mainly affects children under five years of age.

There is no cure for polio, it can only be prevented. Polio vaccine, given multiple times, can protect a child for life.

In 2013, in eight countries (Afghanistan, Cameroon, Ethiopia, Kenya, Nigeria, Pakistan, Somalia and South Sudan) polio cases have been reported, while Syria recently detected its first polio cases.

As reported by CDC³⁴, Polio is a disease caused by a virus that is mainly spread by person-to-person contact and eating or drinking items contaminated with the feces of an infected person. Polio can also be spread through water, other drinks, and raw or undercooked food.

Therefore, drinking safe water and maintaining a good standard of personal hygiene is essential in prevention of the spread of this disease.

²⁹ CDC: [<http://www.cdc.gov/h1n1flu/psa/hygiene.htm>]

³⁰ CDC: [<http://www.cdc.gov/flu/avianflu/prevention.htm>]

³¹ CDC: [<http://www.cdc.gov/measles/>]

³² University of Wisconsin: [<http://www.uwhealth.org/news/preventing-the-spread-of-measles/32332>]

³³ WHO: [<http://www.who.int/mediacentre/factsheets/fs114/en/>]

³⁴ CDC: [<http://www.cdc.gov/travel/diseases/poliomyelitis>]

Cross-cutting issues

12.1 Gender

A focus on gender differences is of particular importance with regard to hygiene and sanitation activities. Therefore, gender-balanced approaches should be encouraged in plans and structures for implementation. Access to adequate and sanitary latrines is a matter of security, privacy, and human dignity, particularly for women and girls.

As men often control household income, hygiene promotion and education need to be targeted at them also to ensure that resources are available for the construction and maintenance of sanitary facilities.

Women are acutely affected by the absence of sanitary latrines:

- When women have to wait until dark to defecate and urinate in the open they tend to drink less during the day, resulting in all kinds of health problems such as urinary tract infections (UTIs).
- Women are sexually assaulted or attacked when they go into the open to defecate and urinate.
- Hygienic conditions are often poor at public defecation areas, leading to worms and other water-borne diseases.
- Girls, particularly after puberty, miss school due to lack of proper sanitary facilities.

12.2 Inclusiveness

The Social Model of Exclusion³⁴ *Inclusion:*

More recently, a new way of thinking about socially excluded groups is increasingly accepted – this is called the ‘social model’ of inclusion.

The starting point for the social model is that everyone is a part of society, that everyone is different – female/male, young/old, tall/short, weak/strong, and that difference is a normal and natural part of all communities.

Groups who are perceived as ‘different’ have the same needs and rights as everyone else – to be part of a family, to education and personal development, to contribute and participate in the life of family and community, to dignity, employment and so on.

Instead of focusing on fixing the individual, the social model focuses on identifying and removing the barriers in the surrounding environment, community and society, that prevent all these aspects of inclusion. These barriers can be extremely varied. They might include very obvious physical obstacles in the natural or built environment, they could be social or attitudinal factors, to do with people’s perceptions, cultural norms and behaviour, or barriers could take the form of institutional or organisational issues, to do with policies and procedures, the way organisations operate, the way services are delivered.

The social model fits well with rights-based approaches, because it focuses on changing society to enable everyone to be included, in terms of access to facilities and services, but also in terms of inclusion in decision-making

There are generally three groups of barriers identified that could make WASH interventions less inclusive :

Social or attitudinal barriers arise essentially from a lack of respect, which results in isolation, prejudice, stigma, misinformation and lack of self-confidence of those who are marginalised. Attitudinal barriers are responsible for much of the social exclusion experienced by people with disabilities or people living with HIV, as well as for the disproportionate burden placed on women and girls in the region – as de facto managers of water, toilets, household and community cleanliness in general, and the teachers of their children, the next generation. These barriers are also responsible for taboos that prevent us from talking about and then ensuring that sanitation facilities address the practical dimensions of washing and disposal needs linked to menstruation for women and girls, imprisoning millions of adolescent girls and women every month and keeping them away from school, work and play.

Physical barriers in natural or built environment impede physical accessibility to infrastructure and to communication; for example, toilet and squat pan designs which are difficult to use for people with

³⁵ WEDC: [<https://wedc-knowledge.lboro.ac.uk/collections/equity-inclusion/>]

disabilities, older people and pregnant women, pans and traps that are improperly sized and daunting for young children and the lack of suitable options for water logged areas, sandy soils or flood prone areas, or communication materials which cannot be deciphered by illiterate people, or those who are blind or deaf.

Institutional or organisational barriers cover a host of issues, acts of omission, such as lack of specific policies for the excluded including finance, knowledge, skills and consultation mechanisms, and acts of commission such as administrative and financial corruption. Poor accountability mechanisms perpetuate weak governance, wherein government and civil society officials as well as elected representatives remain systematically blind to the deplorable

conditions of the urban and rural poor, especially the most marginalised groups.

Solutions can be found at different levels:

- Directly on the hardware side, in terms of construction and modification of facilities ,
- Institutionally, in terms of improved designs of facilities, capacity building of staff and partners, organisational procedures, and development of partnerships
- And raising awareness of rights and challenging negative attitudes and exclusion

The WEDC resource kit³⁵ on equity and inclusion in WASH provision provides



Hygiene promoter checking IEC materials, Sri Lanka

guidance to the process on identifying WASH related barriers and finding solutions.

Annex 6 Shows a checklist on aspects related to Inclusive WASH that should be taken into consideration.

Overview table WASH equity and inclusiveness issues different groups:

Groups	Objectives
People with Disabilities	Physical, environmental, social and institutional barriers limits their access to WASH
People living with HIV/AIDS	Stigma and discrimination results in denial of access to WASH making them more vulnerable to diseases
Women	Low participation in investment and design decisions, although women and girls are de facto managers of WASH services Lack of WASH facilities make women more vulnerable to violence and other physical hazards and affect the care and health of their children Menstrual hygiene is not a part of sanitation design
Children and older people	Children are most vulnerable to WASH related diseases (high mortality and morbidity rate) Lack of WASH in schools has an adverse impact on their achievement and results in girls drop out Older people do not access facilities due to physical challenges and costs

Sanitation promotion in Haiti

In Belle Anse, Haiti, Malteser International works with a Dominican partner organization COTEDO (Comisión de Trabajo Ecuménico Dominicano) and the local agricultural association. The overall focus of the project is on climate change adaptation. One component relates to increasing agricultural productivity, and another one on WASH with the aim of improved (environmental) sanitation and more sustainable management of water resources.

For COTEDO this project represents an introduction to implementation of the CLTS (Community-led Total Sanitation) approach. With the guidance of our Haiti team, they will promote better sanitation practices using this method in communities with a total population of 4.000 families over a period of three years. The aim is that the practice of open defecation will be reduced by half at least.

Prior to the project, the sanitation coverage in the project area was at 5 percent only. Meanwhile 100 latrines have been built with some material support and we aim at scaling up the activity to other communities who expressed high interest for latrines as well.

For the communities starting at the bottom of the sanitation ladder, CLTS first focuses on small improvements like no open defecation close to homes/ water sources and covering faeces. Experiences shared by COTEDO were very positive, and had an intense impact on the communities involved.



CLTS training in Belle Anse, Haiti

Global annual events

Global annual WASH related events related to promotion of toilets, handwashing or safe water access are excellent events to mobilize communities around to promote improved WASH practices. As the dates of these annually recurrent events are known well in advance, programmes have the possibility to plan related events well in advance and use the events to communicate the Malteser International WASH interventions to a wider public, including an international audience through the Malteser International headquarters communication department, which can launch press releases related to these events.

Activities can be considered to commemorate the following events:

13.1 World Toilet Day

World Toilet Day is observed annually on 19 November. This international day of action aims to break the taboo around toilets and draw attention to the global sanitation challenge.

As long as one in three people globally still has no access to a proper toilet, it is important to continue lobbying for improved toilet coverage.

World Toilet Day was created to raise global awareness of the daily struggle for proper sanitation that over 2.5 billion people still face. It brings together different groups, such as media, the private sector, development organisations and civil society in a global movement to advocate for safe toilets.

Malteser International in Cambodia with its local partner CHHRA commemorated World Toilet Day in 2012 in Kon Kriel Commune in the Province of Oddar Meanchey.

In collaboration with the Provincial Department for Rural Development village chiefs, village sanitation facilitators, women and child affairs committee members, commune councillors, school committees, school teachers and students had been invited aside the numerous villagers to demonstrate their leadership

and initiative towards changing behaviours to improve hygiene and sanitation within their community. 450 people of the area attended the celebration and participated in the numerous activities which had been organised to raise awareness and knowledge on good hygiene practices and easy ways to change behaviour leading to better health outcomes and productive communities.

Correct hand washing with soap, the benefit of constructing latrines and the need to filter drinking water were activities which were supported by information



World Toilet Day event, with partner agency CHHRA, Cambodia



World Toilet Day event, with partner agency CHHRA, Cambodia

sessions and a quiz on WASH. 100 poor motivated households received construction materials to pursue their wish of having a toilet. CHHRA community facilitators will guide and advise the households on the correct positioning of their new latrines and will offer technical building advice during the construction period. The Provincial Department for Rural Development facilitated the understanding of a comprehensive WASH approach by each distributing hygiene kits and household water filters. The overall aim of the day was that all participants understand the importance of good hygiene practices and assist with promotion/awareness raising in order to change bad practices and behaviours related to hygiene and sanitation.

13.2 Global Handwashing Day

Global Handwashing Day was originally created for children and schools, but can be celebrated by anyone promoting handwashing with soap.

Each year on October 15th, over 200 million people are involved in celebrations in over 100 countries around the world.

As handwashing with soap is the most effective and inexpensive way to prevent diarrheal and acute respiratory infections, which take the lives of millions of children in developing countries each year, its promotion should get high priority for all involved in WASH or health related interventions.

Examples of Malteser International Global Handwashing Day commemorations in 2012

Together with the children, Malteser International has built handwashing shelters in the schools in the Mae La Oon refugee camp, Thailand.

Children in A Pyin Yae Kyaw, a little village in Myanmar, participated in a handwashing competition.

13.3 World Water Day

World Water Day has been observed on 22 March since 1993 when the United Nations General Assembly declared 22 March as World Day for Water.

The UN and its member nations devote this day to implementing UN recommendations and promoting concrete activities within their countries regarding the world's water resources. Every year, a different topic around "Water" is highlighted.

In addition to the UN member states, a number of NGOs promoting issues related to access to clean water in a sustainable way focus public attention on critical water issues.

In this context, Malteser International also seeks to commemorate this day, particularly in programmes with a significant WASH component like Myanmar. An example is given below.

World Water Day 2013

Kayin children learn about water in their new school (adopted from "On the Spot", March 2013).

The school children in the village of Hpar Lin Kyaut Tan, in Kayin (Karen) State, Myanmar, got to celebrate World Water Week this year in their brand new school. The school was recently built by Malteser International as part of a wider program in the region to improve health, education, access to water and sanitation and disaster preparedness.

The day was celebrated with educational sessions on the connection between

water and health and hygiene. Malteser International staff explained to the children the importance of this year's World Water Day theme, "Water Cooperation". Photos displayed examples of water use from various countries, and the students participated in an art competition by drawing about the role of water in daily life.

"World Water Day is a great occasion to teach our children about the importance of water and hygienic water use to our health," says Bijay Shrestha, Malteser International's programme coordinator in Kayin. "It is even more exciting to be able to do it in a brand new school, in an environment which is conducive to learning."

The school was built with financial support from the German Ministry for Economic Cooperation and Development.

Malteser International is committed to improving access to clean water, sanitation and hygiene in many countries around the world. According to the United Nations, almost 800 million people continue to lack access to clean drinking water, and 3.5 million people die each year as a result of poor water conditions. More than a billion people have no access to sanitary facilities.

The children got to celebrate World Water Day in their brand new school.



World Water Day, Kayin state, Myanmar



Happy children in Illeret, Kenya

Personal hygiene

To reduce the incidence of water-washed diseases, good personal hygiene practices are vital. Some of the problem areas and solutions are illustrated below.

Problem areas

Hair: Dirt sticks more easily to greasy hair, combs and brushes.

Nose: Outer skin is greasy and can collect grease, blocking pores.

Armpits and genital areas: Sweat collects here, encouraging growth of bacteria. Stale sweat smells and can favour growth of pathogens.

Hands: Many materials handled are easily spread to other parts of the body, particularly the mouth and eyes.

Fingers and toes: Sweat between them can soften skin and favour fungal growths.

Nails: Dirt under the nails provides food and shelter for many organisms, including parasite eggs.

Feet: Bare feet can pick up worm larvae as well as other pathogens from the soil and latrine floor.

Remedial actions

Hair: Wash hair, combs and brushed often; at the same time check for head lice and treat if necessary.

Eyes: Wash carefully around the eyes, especially of babies, to avoid excess; avoid rubbing, particularly with dirty hands or cloths.

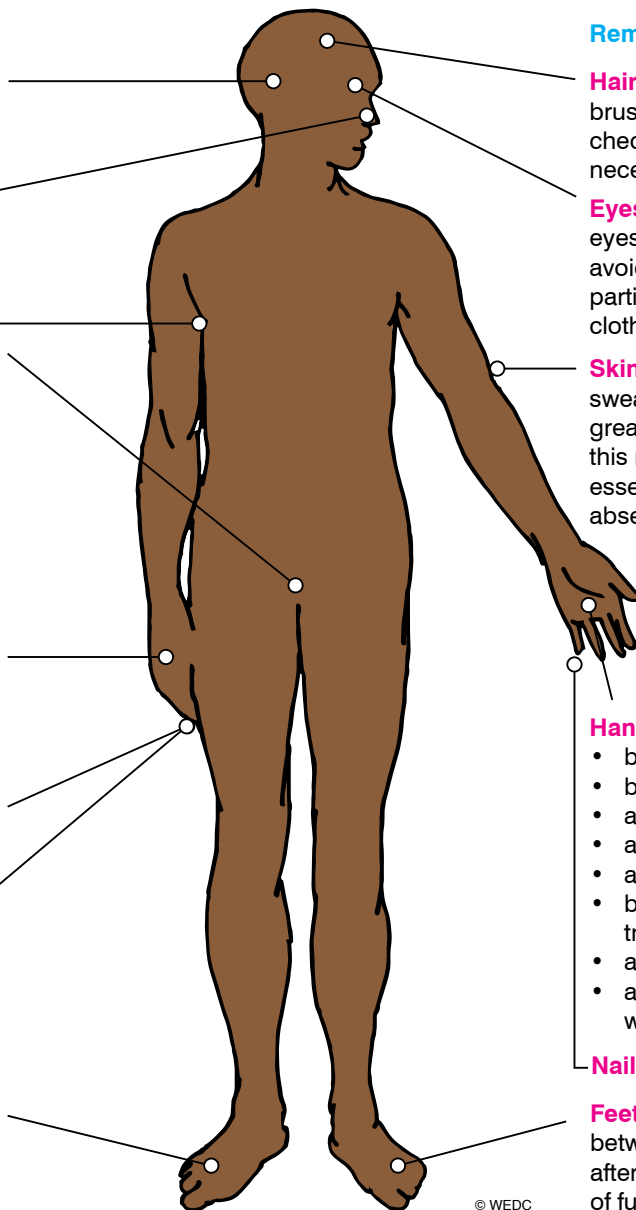
Skin: Wash frequently to remove sweat, dirt, dead skin cells and grease. Using soap helps remove this matter and clears pores, essential for skin functions; in the absence of soap, ash can be used.

Hands: Wash well, particularly:

- before preparing food;
- before eating;
- after excreting;
- after gardening;
- after handling dirty clothes;
- before and after cleaning and treating sores and wounds;
- after handling animals and
- after handling chemicals at work or in the home.

Nails: Keep clean and trim.

Feet: Wash dirt and sweat from between toes and dry well afterwards to discourage growth of fungi ('athlete's foot').



© WEDC

Adapted from: INCE, M. E. and SHAW, R. J. 1991. 'Eye and skin diseases'. In *The Worth of Water*. Rugby, UK: Practical Action Publishing

WEDC: Poster 3, *A guide to personal hygiene*, [<http://wedc-knowledge.lboro.ac.uk/details.html?id=19338>]

ANNEX 2

WASH software and assessment techniques

A PARTICIPATORY LEARNING AND ACTION (PLA)³⁶

In PLA the process of the participatory method is in the centre and perceived as part of the solution process, i.e. the people take already action in deciding etc. Detailed information on PLA is available on : <http://www.iied.org/natural-resources/key-issues/empowerment-and-land-rights/participatory-learning-and-action>.

PLA is an approach for learning about and engaging with communities. It combines an ever-growing toolkit of participatory and visual methods with practical interviewing techniques and is intended to facilitate a process of collective analysis and learning.

The approach can be used in identifying needs, planning, monitoring or evaluating projects and programmes. Whilst a powerful consultation tool, it offers the opportunity to go beyond mere consultation and promote the active participation of communities in the issues and interventions that shape their lives. The approach has been used, traditionally, with rural communities in the developing world. There it has been found extremely effective in tapping into the unique perspectives of the rural poor, helping to unlock their ideas not only on the nature and causes of the issues that affect them, but also on realistic solutions. It enables local people to share their perceptions and identify, prioritise and appraise issues from their knowledge of local conditions. More traditional, extractive



Sanitation committee meeting, Vietnam

research tends to ‘consult’ communities and then take away the findings for analysis, with no assurance that they will be acted on. In contrast, PLA tools combine the sharing of insights with analysis and, as such, provide a catalyst for the community themselves to act on what is uncovered.

By utilising visual methods and analytical tools, PLA enables all community members to participate, regardless of their age, ethnicity or literacy capabilities.

How is it conducted?

The repertoire of PLA tools is large and ever-growing and practitioners of the approach are constantly adapting

and adding to the toolkit to meet their needs. What follows therefore are merely descriptions and examples of some of the more commonly used tools intended to give a flavour of the approach.

Mapping

Mapping activities are often used as introductory activities. They allow the community to show and talk about how they see the area where they live, the resources/facilities available and what is important to them in their environment. They enable ‘outsiders’ to begin to see a community through the eyes of the local people.

³⁶ University of Wolverhampton: Sarah Thomas, Text of this chapter adapted from “What is Participatory Learning and Action (PLA): An Introduction”, Centre for International Development and Training [idp-key-resources.org/documents/000/d042.67/000.pdf]

Time lines

Time lines are a type of diagram that help to record changes in a community/household/life of a community member over time. They are a way of noting the important historical markers and milestones of a community or individual, giving a wider historical context to issues being discussed. They can also enable participants to draw out trends.

Transect walks

Transect walks are a type of mapping activity, but they involve actually walking across an area with a community member/group of community members, observing, asking questions and listening as you go. This information is then represented visually in a transect sketch/diagram.

Problem trees

A 'problem tree' or 'issue tree' is a type of diagram which enables community members to analyse the causes and effects of a particular problem, and how they relate to one another.

Constructed around a focal problem/issue, the causes of that problem are traced down below, and the effects above.

Ranking/scoring activities provide a way for community members to weigh up/rate/prioritise items or issues either relative to one another or according to criteria.

Venn / chapati diagrams

These are two similar types of diagrams that can be used to explore the roles and relationships of individuals, groups and individuals and the links between them.

These are just some of the tools that are used as part of the PLA approach. The approach itself is dynamic and flexible but is underpinned by some key principles:

- Roles are reversed such that local people are seen as the 'experts'.
- 'Handing over the pen' – the community members themselves do the drawing, mapping, modelling, diagramming; the facilitators build rapport, listen, question and learn.

KAP³⁷

The Knowledge, Attitude and Practice (KAP) approach has its roots in human health and management sciences. Especially in the health sector, KAP has been used with patients on various long-term therapies where a long-term interaction is needed.



Village consultation meeting, Myanmar

The approach is used in many Malteser International programmes to get information on the knowledge base of the community one wishes to work with, so that appropriate intervention strategies can be worked out that address identified issues.

Within the KAP approach, and particularly when used for WASH interventions, survey is the primary method used to collect data and information about beliefs, practices and perceptions, by asking a structured and predetermined set of questions which produces quantitative information and analysis from a large number (sample) of randomly selected individuals. Survey data is generally collected by trained enumerators who speak the local language and use a standardised questionnaire to collect information from respondents at the household level.

In planned WASH projects which are to be delivered over several years, these surveys are carried out at various stages of the project, to ultimately understand the final impact of the intervention. The key differences between using KAP as an approach versus KAP surveys as in WASH projects are in the process of interaction with the respondents, the duration of that interaction, the use of feedbacks, the nature of the intervention and the purpose of the analysis. Although KAP surveys are often packaged together with water, sanitation and hygiene interventions, their application is far more relevant in hygiene education as we can "measure" behavioural change over time, as compared to operation and maintenance of centralised physical infrastructure.

The MdM Guide³⁸ on KAP surveys is a very useful document to guide the use of this survey method in the field.

Participatory planning session in Vietnam



³⁷ DFID: [www.evidenceondemand.info/KAP-surveys-in-the-context-of-WASH-projects-Draft-Report-October-2009.aspx]

³⁸ Medecins du Monde: The KAP survey Model

Other surveys and assessments

Baseline surveys, intermediate evaluations and final impact assessment studies are necessary parts of all WASH programmes. The purpose of baseline surveys is to establish a baseline figure on various indicators, which will be addressed and changed with the WASH project interventions. If we undertake impact assessments at the final stages of the project, these indicators could be monitored and verified.

If the project only has a small set of indicators, it is possible to accurately measure the changes between the baseline surveys and the final impact assessment. Structured surveys that use questionnaires are also criticised for not promoting enough interaction, being professionally controlled and not a good tool to promote true consultation between different groups.



Project Planning, Sri Lanka

B WASH SPECIFIC SOFTWARE

"WASH-IDD"

The WASH-IDD (Improvements, Dialogue and Deal)³⁹ approach was developed prior to the Community Based Disaster Risk Reduction Project in Sittwe and Rathidaung townships in Myanmar in 2006 and has been designed using several PLA tools and approaches. However, it is more than data gathering. WASH-IDD's final aim is to have a concrete agreement between the community and the project, by signing the deal. Therefore it is more practical and action oriented and once both parties keep their promise, the sanitation project can be successful and possibly sustainable. WASH-IDD also emphasises the community ownership of the project package or input strongly. Community contribution is also an essential part of it and therefore thorough discussion and identification of their felt needs is very crucial to make the project successful. The PHAST method, that is described later, is relatively more time-consuming.

Analysing weaknesses, planning improvements

Drawing on a collective analysis of the situation, and after intensive health and hygiene campaigns, the teams design concrete action plans with the villages and come up with solutions for problems related to drinking water, sewage, sanitation



Latrine construction, Myanmar

and hygiene in the area. One aim of this work is to guarantee a basic supply for everyday needs as part of the WASH initiative, and a second aim is to guarantee a basic supply for use the next time a disaster occurs. The measures cover a variety of areas: securing the water sources in the village and the access to these, transporting drinking water safely, treating it and storing it suitably for use by households, building latrines for families and at public buildings such as schools and health care facilities

Setting priorities, seeing results

Once the problem is analysed in full, the villagers choose specific measures which are most important to them and prioritise them ahead of the collective implementation process. Finally, the villagers and Malteser International staff sign an agreement identifying the tasks required of the local community and the services Malteser

³⁹ Malteser International, Annual report 2010, p 21

International needs to deliver. This means that, from the very beginning, the success of the measures and the continuous follow-up after implementation will be based on close cooperation between the partners. This will help the villagers identify with the improvement process and increase motivation for the long-term transfer of the responsibility for the activities.

Participation and personal responsibility

While the community's sense of ownership of the project ensures that it will be maintained long-term, the participation of the population will be key to finding suitable solutions and to improving the living conditions on a sustainable basis – the population knows its own needs better than anyone else. The women, usually responsible for managing the home and the health of the family, now have more of a say thanks to the WASH-IDD methodology.

Their participation may help to avoid mistakes in the planning process and reveal what is still missing. Greater personal responsibility and involvement of the population are vital to secure a sustainable and decentralised supply of water and sanitation for all.

Malteser International developed a WASH-IDD implementation manual⁴⁰ that clearly explains the use of this method.

The implementation manual is structured in 3 parts. The first part contains advice on facilitation skills, ways to staff the implementation and also presents an overview of the approach. The second section provides step by step lesson plans for implementing the approach while the third and final section contains all the IEC materials and assessment forms.

The WASH-IDD approach was successfully field tested in Malteser International's WASH intervention areas in Myanmar.

With guidance from the Malteser International staff, the village residents build latrines for their families as well as for schools and other public facilities.

PHAST⁴¹

PHAST is a participatory technique that develops people's understanding of the linkages between sanitation, hygiene and health. The aim is to encourage the community to plan their own sanitation and hygiene initiatives, both at household and community level. The technique uses a number of graphical tools such as the sanitation ladder showing different type of defecation eg. from open defecation, open pit, to fly proof, ventilated improved pit, pour-flush latrines.

PHAST is primarily a decision-support tool that uses a "seven step" participatory approach to facilitate community planning and action. The seven steps are:

- problem identification
- problem analysis
- planning for solutions
- selecting options
- planning for new facilities and behaviour change
- planning for monitoring and evaluation and
- participatory evaluation.

PHAST works on the basis that as communities gain awareness of their WASH situation through participatory activities, they are empowered to develop and carry out their own plans to improve this situation. The planning method uses specifically designed tools, consisting of a series of pictures showing local situations. Community groups are then asked to say how these relate to the local situation and what they would need to do to solve the problems that they have identified.

When individual knowledge is required a process called pocket chart voting is used which allows the participants to vote in secret. The findings are then discussed by the group as a whole, but an individual never has to reveal their choice.

Strengths:

Extremely rewarding for both the community members and community workers, by involving the communities in their project planning and implementation through participatory techniques.

Communities gain confidence and responsibility for their own projects and have a clear say in what they want and do not want.

Effective involvement of the community in monitoring and evaluation ensures that the services put in place respond to the needs of the community and that essential direct feedback provided can serve to change activities as necessary.

Trained community workers in participatory techniques, with proper guidance and management, can become a lasting asset to the programme and the community (World Bank, 2008).

The use of pictures and working in the third person enables communities to share information and plan in a manner which does not disadvantage illiterate people and allows people to express their feelings without exposing themselves.

The participatory planning, implementing and monitoring is creating strong feeling of ownership and responsibility to take care of their facilities by their own.

Weaknesses:

- Requires in-depth training of community workers in participatory techniques. On average two weeks are needed for this training to be completed, to be followed up by regular refresher courses.
- The identification and selection of the community workers is crucial. It is generally necessary to select experienced community workers to take part in the training, leading to several potential problems.
- Experienced community workers may not adapt to participatory approaches easily.
- The PHAST approach requires that community workers have certain character traits: e.g. they must be outgoing, with a good sense of how the community responds to the participatory tools so that immediate adaptations can be made during implementation.
- Requires an intensive management structure. Feasible in smaller "grass-roots" projects but problematic when going to scale.
- PHAST tools are relatively time intensive in their use, requiring that the beneficiary communities are

"Before we started building the latrines, we asked all the families in the village what they needed most urgently. Every family had a say. As it turned out, every family wanted their own latrine", explains village chief Tha Yet Chaung.

"There were only five latrines for 128 families before. Now there is one for every family."

⁴⁰ Malteser International: WASH IDD Manual, Myanmar team, Yangon (internal document)

⁴¹ WSSCC: Elizabeth Tilley, Adapted from "Hygiene and Sanitation Software: A Overview of Approaches", Eawag, 2008, p 46-49

available to go through the participatory exercises; this may be seen as a burden if not properly discussed with the community beforehand. (World Bank, 2008).

These weaknesses can lead to PHAST being used incorrectly and so being largely ineffective. Moreover, evidence suggest that the scope for scaling up the use of the PHAST approach is limited.

WHO has developed a step-by-step guide⁴² for the use of PHAST.

Red Point Method

Red Point is an innovative tool created to increase self-help capacities in communities. The tool was initially developed by Malteser staff of Cambodia in March 2004. It was recognised as a new way of doing community based health promotion and a way of initiation of self help activity among the rural villages.

The design highlights that many people have knowledge, beliefs, and motivation but with no supportive environment, their behaviours do not change.

Red Point works with people who are motivated and links them to a supportive environment and supportive people by making action plans. The design assumes that people have the motivation to address the health outcomes that are important to them as individuals, family, and community. The design highlights to the community that health education tries to prevent health problems by changing health behaviours with the supportive environment.

It results into ownership, empowerment, behaviour change and sustainability by developing the self-help potential of communities. Motivation can be described as a source of energy or their particular Red Point.

Red Point activities are facilitated by health promoters. The method involves 6 different steps:

Step 1 : Introduction to the community

Step 2 : Identify Red Points

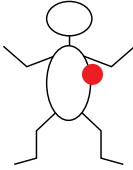
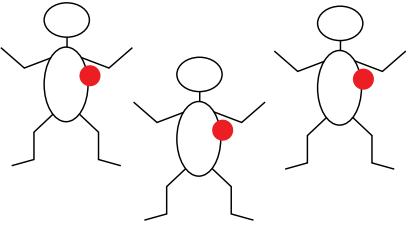
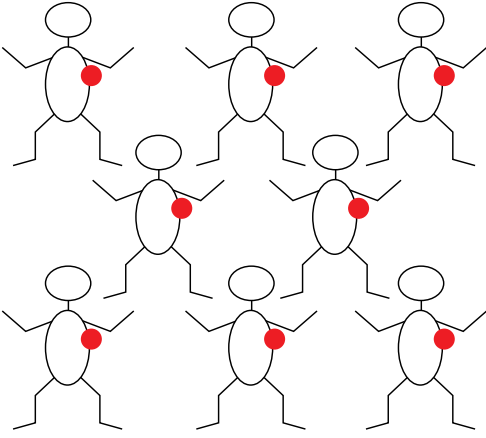
Step 3 : Bring together people with the same Red Points

Step 4 : Identify the causes of the Red Point

Step 5 : Make health action plans

Step 6 : Follow up the action plans

The method is described in detail in the Red Point handbook⁴³.

<p>An Individual with a Red Point</p> 	<p>Example An individual woman who has two children with tuberculosis.</p>
<p>Group of people with the same Red Point</p> 	<p>Example A group of families living side by side with lots of solid waste collecting in the ditch at the front of their houses.</p>
<p>Entire village with the same Red Point</p> 	<p>Example Many village members are concerned about the quality of the services at their local health centre.</p>

Step	Objectives	Method
1. Introduction to the community	Build good relationships Explain the purpose	Group discussions Individual family visits
2. Identify Red Points	Find people that are motivated about specific health issues	Group discussions Individual family visits
3. Bring together people with the same Red Points	Link people with red points to people with the same red points	Set meeting times and locations
4. Identify root causes of the health problems	Understand all of the reasons why the problem happens Make it easier to make an action plan	Group and individual brainstorming Writing problem trees
5. Make health action plans	Write health action plans	Group and individual brainstorming Write health action plan
6. Follow up action plans	Make sure people follow the plans Identify new problems and make new plans	Visit people who wrote the action plan Evaluate impact of action plan

⁴² WHO: PHAST step-by-step: A participatory approach for the control of diarrheal diseases, Geneva, WHO

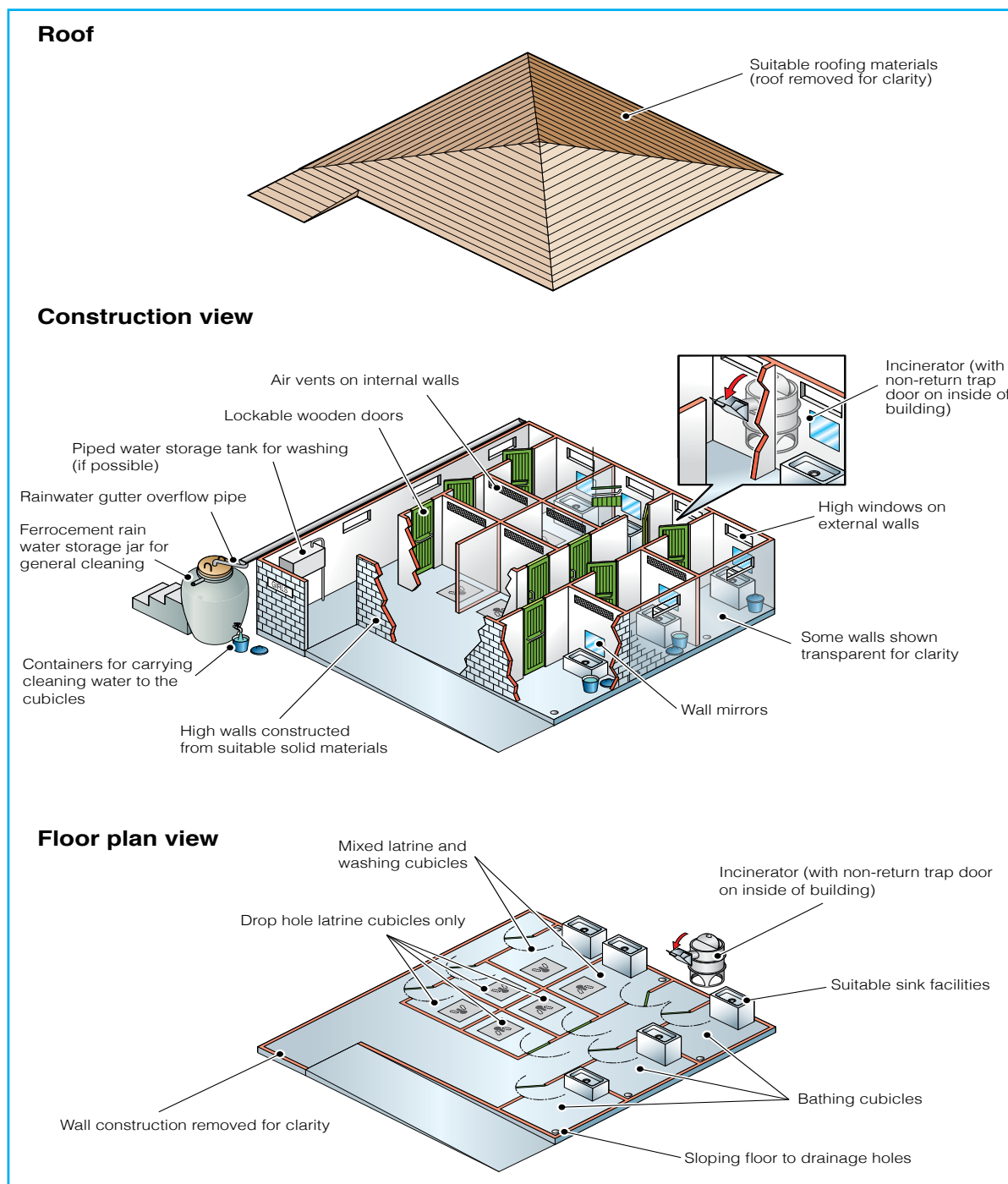
⁴³ CHHRA and Malteser International: Red Point Handbook, 2005

Sample hygiene promotion cards, Mother support groups, Myanmar



ANNEX 4

Menstruation hygiene management facilities at schools



WEDC, Fact Sheet 7, June 2012, [wecd.lboro.ac.uk/resources/factsheets/FS007_MHM.pdf]

Cholera treatment centres

Minimum hygiene, sanitation and isolation activities for cholera treatment centres (CTCs)

Essential principles that all health facilities and CTCs must follow:

1. Isolate severe cases
2. Contain all excreta (faeces and vomit)
3. Have only one carer per patient
4. Wash hands with chlorinated water
5. All floors must be washable
6. Disinfect foot when leaving the centre
7. Disinfect clothes of infected people before leaving the centre (by boiling or disinfection)
8. Provide regular cleaning of floors and all area of the centre
9. Provide separate toilets and bathing areas for patients and carers
10. Prepare food in the centre. If brought from outside, food should be transferred from container at the gate to prevent the container taking cholera-causing micro-organisms (vibrio) out of the centre after use
11. Follow up on the families and relatives of the patient, ensure there are no other cases. Disinfect the house and give hygiene information
12. If people arrive by public transport, disinfect the vehicles.
13. Contain and treat run-off from rain and wastewater within the isolation camp area
14. Treat waste within the isolation camp area.

From: SPHERE 2011, p 132

ANNEX 6

Inclusive WASH



Inclusive WASH : What does it look like?



To be inclusive, a WASH programme should respond to the local context. The following checklist gives an idea of what to look for:

1. **Situation analysis** identifies the environmental, attitudinal and institutional barriers faced by different marginalised groups in relation to WASH
2. **Baseline** includes population data disaggregated by sex, age, disability; questions about menstrual hygiene, accessibility of facilities for disabled persons, and traditional attitudes about gender, disability, and age in relation to WASH. Surveys collect views of women, children, older people, disabled people and their households, and any groups living in the area whose needs are likely to be neglected (caste, pastoralists, migrant workers, displaced people, sex workers, prisoners)
3. **Community mobilisation** uses participatory approaches that enable different groups to actively participate, including those with less power. Meeting times and locations are convenient, there are separate discussions with women and with children, and disabled or older persons are visited at home if necessary. Mobilisers use empowering facilitation techniques.
4. **Information about sanitation and hygiene** includes facts about menstrual hygiene, disability, and communicable disease. It reinforces the need to provide access to all, and challenges false beliefs that result in discrimination against disabled or older people, people living with chronic illness, and people of different caste or religion.
5. **Information is provided in local languages and accessible formats with** pictures for people who cannot read or hear, and verbally/ audio for people who cannot see. Everyone has access to relevant information. Girls and women have information about menstrual hygiene management.
6. Information about **technology options for household toilets** include pictures (drawings or photos) of accessible designs, with features for menstrual hygiene management
7. WASH facilities provide privacy for **women to wash their bodies, stained clothing and any** cloths used for menstrual hygiene management.
8. **Public water sources** are located and installed in a way that makes them as accessible and user friendly as possible for all users, including children and people who are older or disabled.
9. **Public or institutional latrines** (in markets, schools health centres) include separate facilities for males and females, with accessible cubicles, and water provided inside the women's cubicles for menstrual hygiene management.
10. There are arrangements for the **disposal of sanitary napkins**, where used.
11. **User committees** include women and members of other marginalized groups, and are facilitated to ensure meaningful participation.
12. **Tariffs include options** for the poorest and people who cannot pay.
13. **Links are made with relevant agencies**, e.g. re health, rehabilitation, etc. to address issues or needs that are beyond the scope of the WASH sector.
14. **Monitoring and Evaluation** indicators reflect targets for
 - facilities with a specified level of accessibility,
 - reduced numbers of the most marginalized lacking access and use of facilities;
 - increased participation of marginalized community members, not only as beneficiaries but also in active roles with responsibilities and payment where possible.

Online References

Below you find a selection of online hygiene related resources in addition to the references already mentioned in the guidelines.

- Groupsaces.com/malteserinternationalwash Online exchange forum for Malteser International WASH interventions
- www.fitforschool.ph information on how to apply WASH interventions at schools.
- In <http://www.cawst.org> go to “WASH Resources section” and you can see where you can download IEC material in 6 regional styles
- <http://www2.wsp.org/scalinguphandwashing/enablingtechnologies/> details on enabling technologies for handwashing with soap
- <http://www.lshtm.ac.uk/> Resources from the London School of Hygiene and Tropical Medicine
- www.globalhandwashingday.org with details on the importance of handwashing and how to organize events during Global Handwashing Day
- <http://washresources.wordpress.com/category/topics/sanitation/hygiene-promotion/> with many relevant details on publications, websites and multi-media applications for hygiene interventions
- <http://wedc.lboro.ac.uk/knowledge/booklets.html> WEDC booklets and information on hygiene and related topics
- <https://docs.google.com/folderview?id=0B1zx2E-vMw2OaVhIdndoc2kyaG8> collection of WASH documents developed by “Welt Hunger Hilfe”
- IRC (International Water and Sanitation Centre) has an online selection of water and sanitation resources, including blogs; discussion lists; organisations; fact sheets, bibliographic databases; statistics; country profiles; donors and financing; image collections; water portals. You can find it on: <http://www.irc.nl/page/7933>
- Merlin has an online WASH forum from which you can download many relevant documents and ask questions on WASH to the forum if you are a registered user. Refer to the [WaterSanitationHygiene.org](http://www.WaterSanitationHygiene.org) website for more information.
- Akvopedia is an open water and sanitation resource, managed by Akvo.org. It provides fact sheets on appropriate technologies and approaches. They have more than 300 articles, including on sanitation. http://www.akvo.org/wiki/index.php/Main_Page
- <http://www.washnet.de/> The German WASH Network website reflects the WASH related contributions and engagements of eighteen German NGOs involved in emergency- and transitional aid, and in international development cooperation. Together, these agencies aim to contribute towards solving one of the biggest problems of the 21st Century: Globally 900 million people have no access to clean drinking water and 2.6 billion have to live without basic sanitation. This is unacceptable. Although one of the primary aims of the network is joint advocacy and public relations it is also an effort to further professionalisation through the continuous exchange of knowledge and through improved integration of emergency- and transitional aid and development cooperation.
- <http://www.susana.org/> The Sustainable Sanitation Alliance (SuSanA) is an informal network of organisations who share a common vision on sustainable sanitation. SuSanA came into existence in early 2007 and works as a coordination platform, working platform, sounding board, contributor to the policy dialogue on sustainable sanitation and as a “catalyst”. At the present time, the secretariat function is carried out by GIZ (German International Cooperation). Participation is open to those who want to join and be active in the promotion of sustainable sanitation systems.

Note: All internet resources mentioned in the document were accessible on 30 December 2013.

Abbreviations

CAWST	Centre for Affordable Water and Sanitation Technology	MDG	Millennium Development Goals
CDC	Centers for Disease Control	MSG	Mother Support Group
CHHRA	Cambodian Health and Human Rights Alliance	MI	Malteser International
CHAST	Child Hygiene and Sanitation Training	MHM	Menstruation Hygiene Management
CHC	Community Health Clubs	MUS	Multi Use Systems
CLTS	Community-Led Total Sanitation	ORS	Oral Rehydration Salts
C4D	Communication for Development	PLA	Participatory Learning and Action
FGD	Focus Group Discussion	PoU	Point of Use
HIV	Human Immunodeficiency Virus	PPPHW	The Gobar Public-Private Partnership for Handwashing
HH	Household	RANAS	Risks, Attitude, Norms, Ability, Self-regulation
HWTS	Household Water Treatment and Safe Storage	SDG	Sustainable Development Goals
HWWS	Handwashing With Soap	UNICEF	United Nations Children's Funds
IEC	Information Education Communication	UTI	Urinary Tract Infection
IPHCM	Institute Pasteur in Ho Chi Min City	WASH	Water Sanitation Hygiene
IRC	International Water and Sanitation Centre	WASH-IDD	WASH Improvements, Dialogue and Deal
JMP	Joint Monitoring Programme	WEDC	Water, Engineering and Development Centre
KAP	Knowledge Attitude & Practice	WHO	World Health Organization
LLIN	Long-Lasting Insecticidal Nets	WSSC	Water Supply and Sanitation Collaborative Council

Glossary*

Contamination: the process by which bacteria or other microorganisms come into contact and infect an object or surface; further transfer to additional surfaces or objects causes cross-contamination

Diarrhea: the passing of increased amounts of loose and watery stools more than three times a day; often a symptom of an infection or long-term condition which can cause severe dehydration and even death in the young and elderly

Epidemic: the emergence of a new disease or disease to which few people have previously been exposed to, which affects many individuals in a country or region and where the number of cases of the disease substantially exceeds what is "expected," during a given period of time

Hand washing: proper hand washing is the act of cleansing the hands with water, with the use of soap or other detergents in order to remove germs, soil and micro-organisms

Health behaviour: What people do individually and collectively, in order to maintain and/or return to health. What specific steps are taken and why

Hygiene: a set of practices associated with the preservation of health, healthy living and the prevention of disease and infection

Pathogen: any micro-organism (usually a parasite) that causes disease or illness to its host

* http://www.hygienecouncil.org/Portals/1/pdf/Media_Hygiene_Glossary_of_Terms.pdf

The human right to water and sanitation

On 28 July 2010, through Resolution 64/292, the United Nations General Assembly explicitly recognized the human right to water and sanitation and acknowledged that clean drinking water and sanitation are essential to the realisation of all human rights. The Resolution calls upon states and international organisations to provide financial resources, help capacity-building and technology transfer to help countries, in particular developing countries, to provide safe, clean, accessible and affordable drinking water and sanitation for all.

Source: Resolution A/RES/64/292. United Nations General Assembly, July 2010



Malteser International is member of the German WASH Network, which was established in June 2011, and actively participates in activities undertaken by this network.

We are also member of the Household Water Treatment and Safe Storage (HWTS) and sustainable sanitation SuSanA Networks