CHAPTER 14
WATER, SANITATION AND HYGIENE
CAMP SERVICES
CHAPTER 14 | WATER, SANITATION AND HYGIENE

The term camp is used throughout the text to apply to a variety of camps and camp-like settings which include planned camps, self-settled camps, collective centres, reception and transit centres, and evacuation centres.

KEY MESSAGES

→ Water, Sanitation and Hygiene (WASH) services must meet basic needs. Providing these services in sufficient quantity and quality is urgent for people to survive, stay in good health, and maintain dignity. Up to 40 per cent of mortality in the first phases of an emergency is related to diarrhoeal disease. Therefore, WASH services are among the most vital and very first services provided in a camp.

→ Sufficient water must be available for drinking, cooking, personal hygiene and domestic use. Water treatment and disinfection are necessary to ensure water is safe both at source and when used. Good sanitation facilities must be culturally appropriate and safe for use by both women and men at all times, day or night. Hygiene should be promoted through clear and easily understandable messages. Ensuring sufficient water quantity, sanitation and hygiene should be regarded as equally important in preventing illnesses and epidemics.

→ The success and effectiveness of WASH interventions is highly dependent upon the participation of the camp population, the Camp Management Agency and other nearby water users. Failure to adequately involve representatives from different user groups may compromise health, the secure usage and proper maintenance of WASH infrastructure and reduce overall effectiveness of humanitarian assistance.

→ WASH service providers are usually in charge of assessment, design, implementation and maintenance of WASH interventions in camps. As with other services WASH interventions need to be monitored and coordinated by the Camp Management Agency. Agencies need to work hand-in-hand and clearly communicate their roles and responsibilities to the displaced community and national authorities.

→ Sphere standards and WASH indicators must be respected in order to ensure displaced persons’ rights to live in safety and dignity. They also help to measure the impact and effectiveness of humanitarian interventions. At the onset of WASH response operations, the setting of indicators to achieve standards must be addressed. Coordination and agreement on indicators is typically carried out at the national level by the WASH and the Camp Coordination and Camp Management (CCCM) clusters, and in consultation with relevant authorities, the displaced population and WASH service providers.

INTRODUCTION

WASH services must meet basic needs: to provide them in sufficient quantity and quality is urgent for people to survive and stay in good health. Inadequate quantities and poor quality of water, insufficient latrines or open defecation, and poorly set up waste disposal or drainage systems, will lead to illnesses such as diarrhoea and cholera. Therefore, they are among the most vital and very first services provided in a camp. It is the shared responsibility of the Camp Management Agency, WASH service providers and national authorities to reduce the risks of water borne diseases.

Due to their life-saving nature, WASH services need to be planned and carried out with the utmost care and responsibility towards the camp population in order to ensure acceptability, usage and adequate maintenance. The planning, implementation and monitoring of WASH services must be based on technical excellence and a sound understanding of the physical and environmental characteristics of the camp, cultural habits and norms, and the specific needs and protection of vulnerable user groups. In many camp situations, women and girls are responsible for cooking, cleaning, washing and fetching water for their households. They are thus often exposed to a higher risk of abuse and sexual violence. WASH providers and the Camp Management Agency need to take into account safety aspects, and make sure that latrines and other WASH infrastructure are placed where they can be protected and allow safe access for women and girls by day and at night. Although sometimes difficult to promote, participation of women and girls, men and boys in the planning, implementation and maintenance of WASH services is crucial.

For more information on gender and specific needs, see Chapter 11, Protection of Persons with Specific Needs.

OBJECTIVES OF WASH PROGRAMMES

The main objective of WASH programmes in disasters is to reduce the transmission of faeco-oral diseases and exposure to disease-bearing vectors through the promotion of:

→ good hygiene practices
→ provision of safe drinking water
→ reduction of environmental health risks
→ conditions that allow people to live with good health, dignity, comfort and security.

WASH services provided in camps should ensure compliance with international or national agreed upon standards and indicators. They guide and support humanitarian organisations in how to best ensure displaced people’s right to life in safety and dignity and can help measure the quality and effectiveness of humanitarian interventions.

WHERE TO FIND INTERNATIONAL WASH STANDARDS AND INDICATORS
A Camp Management Agency should have available in its office at least one copy of both The Sphere Project’s Humanitarian Charter and Minimum Standards in Humanitarian Response, also known as the Sphere Standards Handbook, and the UNHCR Handbook for Emergencies. These are standard guidance for humanitarian organisations operating in camps. They consist of guidelines, rules, standards and indicators that every member of a Camp Management Agency’s staff needs to be aware of.

To ensure quality, accountability and effectiveness of WASH services, frequent monitoring must be carried out. The primary responsibility lies with the WASH provider, in collaboration with the relevant authorities and, secondly, with the Camp Management Agency in its role as overall coordinator of humanitarian service provision within a camp. Effective coordination between WASH providers and the Camp Management Agency is vital as they need to work hand-in-hand and clearly communicate their mutual roles and responsibilities to camp residents and the national authorities.

Failure to ensure the basic WASH requirements of other services may decrease their efficiency. Failure to ensure camp design incorporates the needs of WASH services may lead to negative impacts on health, the environment and the host community. Provisions to ensure adequate WASH services and links between sectors should be considered throughout a camp’s life cycle from planning, set-up and maintenance, to closure.

KEY ISSUES

ROLES AND RESPONSIBILITIES
The Camp Management Agency’s core responsibility of overall coordination and monitoring of humanitarian services provided in one single camp applies to WASH, as it does to all sectors. Generally, a WASH service provider leads and coordinates the WASH sector in a camp, and is therefore responsible for the planning, implementation and maintenance of WASH services and infrastructure. If there are several WASH service providers operating in one single camp, one should be nominated as WASH Sector Lead and will be the first contact for the Camp Management Agency and the local water and sanitation authorities.

Early in the camp operation, the Camp Management Agency and the WASH providers need to agree on the guidelines, rules and regulations for coordination. These need to comply with the overall rules and regulations for coordination of camp services, best outlined in properly agreed terms of reference (ToR). The Camp Management Agency and WASH service provider(s) should work closely together and clearly communicate their roles and responsibilities to the camp population and the national authorities.

WASH SERVICES IN THE CLUSTER APPROACH
The most severe internally displaced persons (IDPs) emergencies will usually trigger an international cluster response. The Camp Management Agency as well as the WASH services providers and other operational entities including national authorities, will align WASH-related response activities in strategic partnership with United Nations Children’s Fund (UNICEF) as the Global WASH Cluster under the Inter-Agency Standing Committee (IASC) cluster approach. Refugee emergencies are coordinated through the UN Refugee Agency (UNHCR).

For more information on the cluster approach, see Chapter 1, About Camp Management.

The Camp Management Agency has a core responsibility to hold WASH providers accountable and to ensure provision of quality and inclusive WASH services for the camp population. The Camp Management Agency should:

- ensure that WASH issues are included in site planning and early multi-sectoral needs assessments
- ensure coordination between all actors working on WASH issues, including national authorities, the camp administration, camp population, host community and other sectors, to ensure that WASH activities are functioning and effective, and do not duplicate or discriminate
- monitor gaps in services and take action or advocate to ensure they are filled.
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The lead WASH service provider must:

→ coordinate with the Camp Management Agency
→ ensure technical expertise in the assessment, design, implementation and monitoring of WASH services
→ facilitate coordination and cooperation with national WASH authorities and other WASH stakeholders
→ engage with the WASH Cluster, if established, to be informed of key standards, guidelines or resources available
→ disseminate information on WASH issues to other relevant sectors and agencies in the camp.

Both the Camp Management Agency and the WASH service provider should ensure that:

→ WASH services are provided in line with internationally or nationally agreed standards and indicators.
→ A well-functioning monitoring and coordination system for the WASH sector is in place.
→ A community-based monitoring and maintenance system (for example WASH Committees) is in place to regularly check on WASH infrastructure, such as water supply systems, latrines and drainage, so as to allow quick reporting of gaps.
→ Camp residents, particularly women and girls, are involved in the design, construction and placement of appropriate and culturally-acceptable WASH facilities.
→ Camp residents have sufficient access to personal hygiene materials, such as bathing soap, laundry soap, sanitary materials for menstruation and washable nappies/diapers, if traditionally used.
→ Agreements for use and maintenance are made with the host community, where water sources outside the camp are being used by the camp population.
→ The camp residents’ and the national sanitation authorities’ technical and cultural knowledge and expertise are recognised and used.
→ National authorities’ WASH regulations are followed and national law is respected.

WATER SUPPLY

One of the first priorities in emergencies and camps is the immediate provision of adequate amounts of water. It is essential to human survival and needs to be safe and plentiful enough for drinking, cooking, personal hygiene and other domestic uses so as to avoid an increase in incidences of skin diseases, eye infections and diarrhoeal diseases.

SPHERE STANDARDS FOR WATER SUPPLY

The Sphere Project sets up three different key standards for water supply:

1. All people have safe access to a sufficient quantity of water for drinking, cooking and personal hygiene. Public water points are sufficiently close to shelters to allow use of the minimum requirement.
2. Water at the point of collection is potable and of sufficient quality to be drunk and used for personal and domestic hygiene without causing significant risk to health due to water-borne diseases, or to chemical or radiological contamination.
3. People have adequate facilities and supplies to collect, store and use sufficient quantities for drinking, cooking and personal hygiene and to ensure that drinking water remains sufficiently safe until it is consumed.

When the cluster system is activated the lead role in defining such standards and indicators for the response lies with the WASH Cluster in close cooperation with the CCCM Cluster at the national level. When it is not possible to achieve the required minimum level of service, the relevant humanitarian organisations, national authorities and displaced population representatives need to agree on national standards and indicators that still aim to ensure the camp residents’ right to life in dignity and good health.

VOICE FROM THE FIELD - CAMP MANAGEMENT AGENCY AS SERVICE PROVIDER

In a refugee camp in Burundi, the Camp Management Agency, a strategic partner of the UNHCR, was responsible not only for camp management but also for WASH service provision, distribution and education. Ideally, the Camp Management Agency should not simultaneously have the role of WASH service provider in camp. Being responsible for both camp management and service provision may cause tensions, a lack of clarity and/or conflicts of interest. A lack of service providers in the camp, or a rather small number of displaced persons inhabiting a camp, may make it necessary or more efficient for the Camp Management Agency to take on additional responsibilities.
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Typical WASH Emergencies Response Indicators for Minimum Allowable Humanitarian Standards

<table>
<thead>
<tr>
<th>Indicator</th>
<th>SPHERE</th>
<th>UNHCR</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum requirement of potable water (litres/person/day)</td>
<td>7.5–15</td>
<td>15–20</td>
<td>UNHCR’s minimum allocation for survival is 7.5</td>
</tr>
<tr>
<td>Minimum distance from individual shelters to water taps and distribution points (metres)</td>
<td>500</td>
<td>200 (or a few minutes to walk)</td>
<td></td>
</tr>
<tr>
<td>Maximum number of people per water tap</td>
<td>250</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Maximum number of people per well/hand pump</td>
<td>500</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Water available for hand washing at public toilets (litres/user/day)</td>
<td>1–2</td>
<td>1–2</td>
<td>For cleaning public toilets both recommend 2–8 litres/toilet/day</td>
</tr>
<tr>
<td>Water supply to health centres and hospitals (litres/patient/day)</td>
<td>40–60</td>
<td>40–60</td>
<td></td>
</tr>
<tr>
<td>Water supply to therapeutic feeding centres (litres/person/day)</td>
<td>15–30</td>
<td>20–30</td>
<td></td>
</tr>
<tr>
<td>Water supply to schools and learning centres (litres/pupil/day)</td>
<td>3</td>
<td>n/a</td>
<td></td>
</tr>
</tbody>
</table>

It is often challenging to supply sufficient water to meet standards or local expectations during the initial stages of an emergency humanitarian response. This may be due to a general lack of water in the area, damaged or destroyed infrastructure, shortfalls in humanitarian funding or an insufficient number of WASH service providers for large numbers of displaced people. In all cases, the Camp Management Agency and the WASH provider will need to work closely with camp residents to find temporary solutions and design a more durable system for the camp.

Water resources available to a camp are likely to include one or more of the following:

- surface water such as from rivers, streams and lakes that is likely to be contaminated and require treatment
- groundwater such as from wells, boreholes or springs that is susceptible to contamination if not protected, and may or may not require treatment
- municipal or private systems, which are likely to be treated and of good quality
- rainwater will vary seasonally but may be invaluable in the right circumstances. Although pure and clean in theory, collection and storage methods invariably compromise quality.

During the initial stages camp residents will likely be using existing surface and groundwater sources regardless of the quality, and immediate action should be taken to:

- protect these sources from pollution by excreta
- ensure short-term emergency treatment and distribution measures are taken to increase the quantity and quality of water available from existing sources.

If existing water resources are insufficient to meet minimum quantity requirements, alternative arrangements will be needed to transport water from other sources. If this is not possible, the camp population must be relocated.

**WATER SUPPLY DURATION AND SUSTAINABILITY**

Certain estimates put the cost of transporting a litre of water to the International Space Station at about $11,000 per litre. Water is much more than life saving. It is essential for life. If water is not locally available it may be supplied, perhaps at a cheaper but still not sustainable price, by:

- water trucking
- airlifting by plane or helicopter
- desalination (diesel-electric/solar)
- other (as suitable or appropriate).

It is important to remember the duration of emergency operations and sustainability. Life-saving options are part of a staggered approach to ensure survival needs are met throughout the response. If engaging in such provisional measures, it is critical to simultaneously move towards a technically and financially sustainable solution.

Although difficult to predict the lifespan of a camp, once minimum services have been met, the best alternative is to ensure a water system able to deliver a cost-effective long-term service. The design of a water system able to cover all camp needs should be left to the technical WASH provider. It will be important for the Camp Management Agency to ensure that the system design includes:

- an estimation of the full water demand for the projected camp population, including requirements for livestock, sanitation, community services (health/nutrition centres, schools), irrigation, livelihoods and camp expansion
- a thorough understanding of the available water resources
and environmental conditions, such as seasonal fluctuations, aquifer characteristics and water quality, to determine the most sustainable option, appropriate environmental protection measures and appropriate treatment to ensure potability:
- Adequate storage and backup systems to minimise the risk of an interruption of service.
- The equipment selected should consider technical characteristics, procurement possibilities, including spare parts and operational and maintenance requirements.
- The water delivered and the operations and maintenance required is appropriate to the socio-cultural context and existing capacities.
- Provisions are in place for the adequate disposal of water treatment wastes.

**Voice from the Field - Shallow Wells Contaminated by Saline Water**
The Aceh province on the Indonesian island of Sumatra has a tropical climate with heavy rainfall during the wet season. In coastal regions people never used to have to dig very deep to reach groundwater and individual households depended on their own shallow wells. When the tsunami hit Aceh in 2004, more than a hundred thousand Acehnese lost their lives. Most of the survivors lost, at a minimum, their houses and belongings and became IDPs. Due to the enormous amounts of water that had flooded the coast, many areas became wetlands. In the months after the disaster, shallow wells were no longer an option in many places, including camps, because water less than three metres deep was contaminated by the intrusion of saline water.

**Impact on Host Communities**
The demand of a camp population on local water resources is considerable. The table below uses The Sphere Project’s indicator of 15 litres per person/per day and gives an overview of the amounts of water (in millions of litres) certain numbers of displaced persons would potentially need to be provided with over certain periods. Note that this table refers to the human requirements only; the water needs of livestock, irrigation or livelihoods projects should be additionally considered.

The arrival of a displaced population to an area may strain the capacity of local water, sanitation and hygiene resources and infrastructure. Humanitarian organisations, when organising the water supply to a camp and agreeing on standards and indicators, need to take into consideration the social and cultural norms as well as the availability of water, sanitation and hygiene services within a community. The risk that host communities may feel marginalised or neglected is reduced when they also benefit from the humanitarian assistance provided.

**Voice from the Field - Water Access for Host Communities**
A refugee camp in Burundi is located on the top of a hill. Driven by a strong generator, water is pumped up daily from a lower situated natural source into concrete water reservoirs in the camp. The water source is appropriately protected, and the entire water system is regularly controlled and maintained by the WASH service provider. Arrangements have been made with the host community, so that they have access to the water source and benefit from professional technical advice.

**Rationing Water**
Rationing water supplies is very sensitive but may be necessary under certain circumstances. The dry season, a continuous drought, a breakdown of infrastructure or restricted access to the camp limiting water supply, may all be reasons why water would need to be rationed for a certain period. In any case, the Camp Management Agency together with the WASH provider needs to ensure that:
- Water supply to those with specific needs, such as children, pregnant and breastfeeding mothers, older people, those with disabilities, or those with impaired mobility, is prioritised.
- In consultation with the camp population, particularly with women and girls, a timetable is drawn up when pumps and water taps are open or closed.
- Any change in, or rationing of, water supply is transparently communicated to the camp population so that they know and understand why water is scarce and certain

<table>
<thead>
<tr>
<th>Population</th>
<th>1</th>
<th>30</th>
<th>60</th>
<th>90</th>
<th>120</th>
<th>180</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>0.0075</td>
<td>0.225</td>
<td>0.45</td>
<td>0.675</td>
<td>0.9</td>
<td>1.35</td>
</tr>
<tr>
<td>1,000</td>
<td>0.0150</td>
<td>0.450</td>
<td>0.90</td>
<td>1.350</td>
<td>1.8</td>
<td>2.70</td>
</tr>
<tr>
<td>5,000</td>
<td>0.075</td>
<td>2.250</td>
<td>4.50</td>
<td>6.750</td>
<td>9.0</td>
<td>13.50</td>
</tr>
<tr>
<td>10,000</td>
<td>0.150</td>
<td>4.500</td>
<td>9.00</td>
<td>13.500</td>
<td>18.0</td>
<td>27.00</td>
</tr>
<tr>
<td>20,000</td>
<td>0.300</td>
<td>9.000</td>
<td>18.00</td>
<td>27.000</td>
<td>36.0</td>
<td>54.00</td>
</tr>
<tr>
<td>50,000</td>
<td>0.750</td>
<td>22.500</td>
<td>45.00</td>
<td>67.500</td>
<td>90.0</td>
<td>135.00</td>
</tr>
<tr>
<td>100,000</td>
<td>1.500</td>
<td>45.000</td>
<td>90.00</td>
<td>135.000</td>
<td>180.0</td>
<td>270.00</td>
</tr>
<tr>
<td>500,000</td>
<td>7.500</td>
<td>225.000</td>
<td>450.00</td>
<td>675.000</td>
<td>900.0</td>
<td>1,350.00</td>
</tr>
<tr>
<td>1,000,000</td>
<td>15.000</td>
<td>450.000</td>
<td>900.00</td>
<td>1,350.000</td>
<td>1,800.0</td>
<td>2,700.00</td>
</tr>
</tbody>
</table>
restrictions have been established. The camp residents are sufficiently sensitised about the need to save water.

4R GUIDELINES
When water is scarce, the 4R guidelines need to be considered:
- reducing water consumption
- rainwater harvesting
- recycling water
- restoring natural water cycles.

AVOIDING CONTAMINATION
Ensuring safe drinking water from the source to the mouth is the primary goal of all WASH agencies. Water needs to be treated at the source itself, and protected during transportation and in storage. Contamination of water can take place anywhere, from collection to consumption. Poor household hygiene practices or inability to afford sufficient safe storage are often major reasons for contamination of safe drinking water. The Camp Management Agency must, in all cases, promote and facilitate the WASH service provider’s efforts to ensure that:
- The quality of water in wells, pumps, boreholes and water tanks is regularly monitored.
- Water points are fenced-off to keep children, livestock and domestic animals away.
- Animals are only watered at a safe distance from water facilities used by the camp population.
- Safety and security checks at WASH infrastructure are organised through the camp population and the camp’s WASH committees.
- Ideally, a community-based drainage maintenance and cleaning system is established which focuses on ensuring good drainage around water points to avoid pools of standing water.
- Hygiene promotion activities and sensitisation campaigns are carried out, and understood by the camp population.
- Individual households have available good quality jerry cans, vessels or other adequate containers, with lids, in which to store water safely.

SANITATION
Adequate sanitation (the safe disposal of human waste and excreta) is a priority from the very beginning of a camp set-up and is as important as a sufficient supply of water in preventing mortality from WASH-related diseases. Human wastes are a major source of pollution and water contamination, and are often responsible for the spread of diarrheal and vector-borne diseases such as dysentery and cholera. The provision of proper sanitation services will help maintain or improve environmental health conditions in the camp and is of vital importance. WASH service providers will generally aim to set up the following core services or infrastructure:
- public or family latrines/toilets including hand washing facilities
- public or family bathing or showering facilities
- public laundry and drying facilities
- systems for regular waste disposal
- drainage systems for waste and rain water.

The Camp Management Agency should ensure coordination between service providers to align with national level standards, and to determine respective roles and responsibilities in ensuring minimum sanitation standards in all camp services and public spaces. These include schools, marketplaces and health, feeding and learning centres.

WHAT IS SANITATION?
World Health Organization (WHO) defines sanitation as the safe management of human waste (excreta), which includes urine and faeces, through provision of toilets or latrines and the promotion of personal hygiene. Environmental sanitation is a broader term, which includes issues ranging from safeguarding water quality, disposal of human excreta, waste water and garbage, insect and rodent control, food handling practices and drainage.

TREATMENT OF WATER
As a general rule, all water sources should be considered contaminated. They should be tested frequently as ground water and surface water both pose risks and could contain poisonous substances. Treatment of contaminated water needs to always be prioritised. This requires sound technical expertise from WASH providers in order to protect the camp population and the environment. Use of chemicals to disinfect water should be properly controlled.
EXCRETA DISPOSAL
The inadequate disposal of human excreta can lead to an increase in faeco-oral diseases. It can contaminate the ground and surface water sources become breeding grounds for potential disease vectors, and lead to environmental degradation. Safe excreta disposal is as important as the provision of safe water in controlling diarrhoeal and other diseases, and should be accorded the same priority.

Commonly used excreta disposal indicators (Sphere, UNHCR)

<table>
<thead>
<tr>
<th>Description</th>
<th>Short-term Indicator</th>
<th>Long-term Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum number of persons per public toilet/latrine</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>Maximum number of outpatients per public toilet/latrine in medical/nutritional centres</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>Maximum number of pupils per public toilet/latrine in schools</td>
<td>30 girls 60 boys</td>
<td>30 girls 60 boys</td>
</tr>
<tr>
<td>Maximum number of stalls per public toilet/latrine</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>Maximum distance from shelter to toilet/latrine (metres)</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Minimum distance from groundwater sources to toilets/latrines (metres)</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Minimum distance from bottom of latrine to water table (metres)</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

STANDARDS FOR HUMAN EXCRETA DISPOSAL
The Sphere Project sets two key standards for human excreta disposal in camps. They aim to ensure that people have a living area free from faecal contamination and rapid, safe and secure access to toilet facilities at all time.

SAFE AND PRIVATE LATRINES
Safety and privacy are important to consider when designing latrines and setting up WASH infrastructure. The camp population needs to feel comfortable and familiar with the infrastructure and services provided. Privacy and space should be made available for all, and special considerations provided for women, children and members of other vulnerable groups.

DESIGNATED DEFCATION AREAS
Reasonable sanitation indicators are often very difficult to meet at the onset of an emergency. Practically, as the number of users per latrine approaches 100, open defecation will have already become a fact, if not the norm. Protocols for the management of designated defecation fields or areas, because of their lifesaving nature, are mandatory and the use of alternate sanitation practices such as burying excreta is encouraged.

During the initial phase, existing facilities and the pace of latrine construction may not meet initial demand. In this case, open defecation is sometimes unavoidable, and defecation facilities must be provided immediately:

- Defecation fields provide a temporary structured space for open defecation. Fields should be divided into separate strips so that users do not have to cross contaminated ground to use the facilities. They should be separated by gender and screened to provide adequate privacy. In addition, care must be taken to site defecation areas to protect water sources and plants. Service providers should ensure that all camp residents are sufficiently informed about the risks that defecation in fields involve, and strive to provide a better alternative as quickly as possible.
- Shallow or deep trench latrines will ideally be installed as a first option, providing an improvement on a defecation field. These allow excreta to be covered, provide improved privacy and improve the overall hygiene and convenience of use. Specific excreta disposal options or designs will be governed largely by speed of installation, predominant cultural practices and in consultation with the camp population.
- In all cases, such defecation areas should be located at a safe distance from water points, food preparation and storage sites, living quarters, public buildings or roads, and need to be clearly designated and fenced-off. Low-lands that may be flooded should not be assigned for open defecation. Defecation fields need to be easily and safely accessible, particularly for women and girls, and should be separated by gender.

Such communal systems are labour-intensive and require constant supervision. Although difficult to predict the lifespan of a camp, once minimum services have been provided, the best alternative is to ensure longer-term solutions. There are countless systems for human excreta disposal. Local knowledge and technical expertise for their construction can often be found within the displaced or refugee community itself, but it remains the responsibility of the WASH service provider to select or design an appropriate solution for the camp context, in consultation with camp residents and national authorities.

There are three main types of latrines:

- Family latrines: while promoting self-construction, ownership, care and maintenance, the construction period may be long and require tools, equipment and assistance. Correct emplacement and depth will be difficult to ensure where this is a concern.
In planned camps with sufficient area, displaced communities will usually benefit from a proper site and camp set-up in line with international standards, including the WASH sector. In spontaneous camps, collective centres or urban areas the placement of latrines and WASH infrastructure can become particularly difficult. Lack of space, densely erected shelters or inadequate geological conditions often make it challenging to follow Sphere Standards. Camp Management Agencies and WASH providers must not only face the challenges of finding compromises between standards and circumstances, they must also make the resulting decisions known to all in a most transparent manner.

**EMPTYING AND DECOMMISSIONING LATRINES**

Over time, all latrines will have to be emptied or decommissioned, a reality which must be considered when they are planned. If sufficient space is available, closing latrines, filling up the pits and constructing new ones is sometimes the best or only option. In locations with limited space, or in locations where the excavation of pits may be problematic, high water tables, sandy or rocky soils, raised or emptyable latrines may be required.

Either manual or mechanical methods of emptying latrines may be suitable, depending upon the environmental and social conditions. Vacuum tankers (gully suckers) can be used for removing soft materials and liquids, but they may not be available or may not be able to move close enough to latrine sites. Use of vacuum tankers is usually governed by strict laws as to where they may be emptied or flushed out. In all cases, the contents of emptied pits must be considered as extremely toxic and disposed of accordingly. If sufficient space is available, closing latrines, filling up the pits and constructing new ones is sometimes the best or only option. For very sandy soils pit latrines may have to be lined or other excreta disposal solutions sought. The WASH service provider together with the camp WASH Committees are usually responsible for monitoring how full latrines are getting, so that they can make timely plans for their maintenance or replacement.

**SOLID WASTE DISPOSAL**

Solid waste refers to all non-liquid waste produced by households, market places, food distribution points and other sources. It does not refer to human excreta. Medical waste needs special consideration for its disposal. This is usually the responsibility of the health service provider or, through accord, the WASH service provider. Poor or no disposal of garbage and waste increase serious risks such as the pollution of surface water, groundwater and the environment in general. This is an ideal breeding ground for flies, mosquitoes or rats which can be vectors for various diseases.

**LATRINES IN URBAN SETTINGS**

It is often difficult or even impossible to dig latrine pits in urban areas during emergencies. Use of existing structures, chemical toilets or simple drop-hole latrines may often be the only practical initial options.

**STANDARD FOR SOLID WASTE**

The Sphere Project’s key standard for solid waste management aims to ensure that people have an environment acceptably free of solid waste contamination, including medical wastes, and have the means to dispose of their domestic waste conveniently and effectively.

**Commonly used solid waste indicators (Sphere, UNHCR)**

<table>
<thead>
<tr>
<th>Description</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum distance from shelter to container or household refuse pit (metres)</td>
<td>15</td>
</tr>
<tr>
<td>Number of families per 100-litres refuse container</td>
<td>10</td>
</tr>
</tbody>
</table>

Commonly used waste collection methods at households, market places, schools and other public spaces are:

- refuse pits, bins or containers for single households or groups of households
- communal pits and rubbish disposal sites for larger groups of households
- household or communal recycling bins.

There are four main techniques frequently used in camps for the disposal of solid waste:

- Burial of waste (also called sanitary land-filling or controlled tipping) in trenches or large pits is relatively simple but requires caution. Proper drainage is essential to avoid contamination of water sources. When drainage is not adequate, trenches may, sooner or later, become disease-carrying cesspits. Burial pits need to be closed safely with layers of soil when they are full. They should always be fenced off and placed at a safe distance from...
shelter and WASH infrastructure.

- Burning or incineration is sometimes the only option when there is insufficient land available for burial. In this case, it should be done off-site since fire and smoke may pose serious hazards in a congested camp setting. Medical waste, however, should never be buried but only burned in a technically appropriate incinerator at health centres and under the supervision of trained medical staff.

- Composting is obviously useful for gardening and agricultural activities but difficult to implement in emergency situations. It may only be feasible in longer-term camps and where there is enough space in and around the camp. It requires specific technical knowledge, training and follow-up. Garbage must be carefully sorted. Larger composting sites and pits also increase the risk of fumes that can pose a health risk for the camp population.

- Recycling bins or designated collection areas for items such as tin cans, bottles, paper or plastic bags, established as soon as feasible, will prevent waste of potentially useful materials and reduce the overall volume of waste to be disposed.

When setting up a camp’s waste disposal system, the WASH service provider and the Camp Management Agency should make sure that:

- All material and infrastructure, whether bins, containers, pits or incinerators, are of solid quality and safe for use.
- All sites and places for garbage and waste disposal are fenced off, particularly to protect children, and to keep animals away.
- In cooperation with the WASH committees and the camp population, daily work plans and schedules are established for waste disposal and control and maintenance of sites and pits.
- Roles and responsibilities have been agreed with the camp population and the WASH Committees, so that tasks are clearly distributed. It is recommended to draw up a formal ToR outlining these roles and responsibilities.
- Materials such as wheelbarrows and shovels are available for cleaning and maintenance.
- Reusable materials, such as from construction sites, are collected and given to those who can make use of them.

**DRAINAGE**

Effective drainage must be ensured to minimise the risk of flooding, and the degradation of environmental health conditions due to stagnant water, muddy living conditions or erosion. Drainage must be ensured to collect waste-water around infrastructure and to safely transport waste and rain water away from living areas. Ideally, a camp site is planned prior to the arrival of IDPs or refugees, preferably on sandy soil and a slightly sloping ground to facilitate drainage. Such sites may require only limited interventions to ensure adequate drainage throughout the camp. However, in sites on flat or steep terrain, effective drainage becomes paramount, but may pose a particular challenge.

**DRAINAGE STANDARDS**

The Sphere Project’s key standard for drainage stipulates that people should have an environment in which health risks and other risks posed by water erosion and standing water, including storm water, flood water, domestic wastewater and waste-water from medical facilities, are minimised.

Effective drainage serves to:

- remove surface water from living areas
- prevent stagnant water, flooding and erosion
- ensure easy vehicular or pedestrian foot access at all times.

In urban contexts, activities may be limited to the clearing or repairing of existing sewerage and drainage networks. However, in semi-urban or rural contexts, existing drainage networks may be non-existent. Typically, the construction of drainage systems for roadways, rainwater and flood or erosion control are large scale and often require heavy or specialised machinery and are typically not the responsibility of WASH service providers. They should be planned and separately financed during the site-planning phase of camp set-up.

- For more information on site planning, see Chapter 7, Camp Set-up and Closure.

Adequate camp planning is often not possible as displacement often happens unexpectedly. Depending on human and financial resources, and varying from context to context, the establishment and maintenance of a camp drainage system may fall under the responsibility of either the Camp Management Agency, the WASH service provider or even the national sanitation authorities, particularly in urban areas. Prior to implementation the Camp Management Agency should ensure agreement on respective roles and responsibilities between the stakeholders.
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COMMUNITY PARTICIPATION IN DRAINAGE ACTIVITIES
Planning and implementation of a camp drainage system provide good opportunities for Camp Management Agencies and WASH providers to involve the camp population. Provided with appropriate tools and technical training, households can be made responsible for the maintenance of simple water channels around individual shelters. If needed, the host community should equally be involved in the planning as drainage systems may affect the environment around the camp.

In an already well-drained site, WASH service providers should systematically ensure adequate drainage to:

- protect WASH infrastructures from surface water. Water points can be contaminated by infiltrating surface water and without proper protection communal defecation areas can contaminate the environment.
- ensure the proper drainage of waste water for it can carry faecal contaminants, and standing wastewater can easily become a breeding ground for insects such as mosquitoes.

Where drainage networks exist, providers should ensure that individual WASH infrastructure drain into the broader network. Where this is not possible, infiltration is commonly used. Soil type will determine options for infiltration systems. Where soils, such as clay, are relatively impermeable, care is needed to ensure the effectiveness of infiltration designs so as to avoid the pooling of waste-waters.

OPEN CHANNELS
Often the only available play space, wastewater in open channels running through a camp’s living quarters may attract children.

DISPOSAL OF DEAD BODIES
The mortality rate in camps and camp-like settings is especially high when displacement is recent or basic needs cannot be addressed. Epidemics, diseases, malnutrition or conflict can rapidly increase camp mortality rates.

Burial is generally the best and simplest way to dispose of dead bodies, if culturally acceptable. When planning a camp, the relevant stakeholders, including the Camp Management Agency, should assign appropriate sites for graveyards and ensure corpses are buried at a sufficient distance from shelter, other infrastructure and groundwater collection points. Burial areas should be selected in close consultation with the displaced community, following as much as possible local customs and traditions. Usually elevated areas or hillsides are selected as it remains important to avoid areas prone to flooding, with high water tables or otherwise susceptible to contamination.

Burials are in every culture a sensitive and emotional event. Whenever possible, humanitarian organisations should respect the displaced community’s traditional methods of burial. The relevant service provider should support the relatives of the deceased person by making available technical equipment for grave digging and burial as well as burial shrouds.

Some cultures practice cremation. In camps and camp-like settings this may often not be possible due to a lack of space, fuel and adequate infrastructure. In such cases the Camp Management Agency, together with the representatives from the displaced community, need to find other solutions. Under circumstances of displacement people may be able to change their traditional habits.

VOICE FROM THE FIELD - SPACE FOR BURIAL
In congested spontaneous camps, burial becomes particularly challenging. IDPs in camps in Northern Uganda for example, had to live for many years in highly congested camps and were not allowed to move outside. Freedom of movement was largely restricted. Hence, they had no other solution than to bury their dead within the camp close to shelter and groundwater.

It is misleading to believe that dead bodies necessarily enhance risks of epidemics. They usually do not unless death occurred as a result of typhus, plague, cholera or haemorrhagic fevers such as Ebola. In these cases, dead bodies should be buried immediately and funeral gatherings limited.

MORTUARY
In large-scale emergencies it may be necessary to construct one or several mortuaries to facilitate identification of corpses. In non-emergency settings, a mortuary may also be required for families to conduct a wake and to deal with their loss. A mortuary should be a secure building consisting of four sections: reception room, viewing room, storage room for bodies not suitable for viewing and a room for records and storage of personal effects.
VECTOR CONTROL
In tropical countries, malaria and diarrhoea are still the vector-borne diseases of greatest public health concern as they present a major risk of sickness and death. Malaria is transmitted by mosquitoes and diarrhoea may be transmitted by flies. There are other nuisance vectors that can transmit a variety of diseases in camps where people and animals may have to live together in cramped surroundings.

INSECTICIDE-TREATED MATERIALS
Particularly in high malaria risk areas, it may be necessary to distribute insecticide-treated materials such as mosquito nets, blankets, sheets or tents. Spraying of tents is an established method of preventing infections. Non-tented shelter covered with tarpaulins can also be sprayed.

Chemical control of vector-borne diseases is not the best option in camps but may sometimes be unavoidable. During diarrhoea epidemics space and shelter spraying may be effective in reducing the number of adult flies. Chemical control requires specialist technical follow-up. Concerned staff and camp residents need to be trained accordingly. The WASH provider needs to make sure that sufficient information is available about all chemicals used. Additionally, staff and camp residents need to be equipped and protected adequately when handling chemical substances.

ADDRESS VECTOR PROBLEMS
Certain measures to address vector problems may become counter-effective. For example, an increase in the rat population has been reported where stipends were paid for each dead rat delivered at a drop-off point. The camp population failed to see the rodent population as a vector and instead perceived the scheme as an income source.

HYGIENE
Hygiene education and promotion are closely related to health and health education and is a crucial component of WASH activities. Whether in well-planned or in spontaneous and congested camps, it is essential for the residents to understand the direct impact that adequate hygiene will have on their physical well-being. The distribution of soap, sanitary materials or cleaning tools or the availability of latrines and garbage pits are one matter, their appropriate and regular use another. The Sphere Project defines hygiene promotion as “the mix between the population’s knowledge, practice and resources, and agency knowledge, and resources which together enable risky hygiene behaviours to be avoided”.

PREVENTION TIPS
- Dispose of garbage safely so that food can be protected against rats and other rodents
- Keep domestic animals away from where people live, eat, wash or fetch water
- Dispose of garbage safely so that food can be protected against rats and other rodents
- Keep domestic animals away from where people live, eat, wash or fetch water.
- Set up camps and sites where the physical characteristics and the geology are appropriate. Swamps and wetland are to be avoided
- Provide safe drinking water at maintained water points
- Put in place, and maintain, a sound camp drainage system, so that stagnant water cannot become a breeding ground for mosquitoes
- Clean and empty latrines and toilets properly and in a timely manner so that flies cannot lay their eggs and breed
- Distribute safe and adequate storage facilities for households, such as containers and vessels
- Dispose of garbage safely so that food can be protected against rats and other rodents
- Keep domestic animals away from where people live, eat, wash or fetch water.
HYGIENE STANDARDS
The Sphere Project’s sets two key standards for hygiene. They aim to ensure that people are aware of public health risks and the correct use of constructed facilities, have access to key items needed to practice good hygiene and are involved in their selection.

Broadly speaking, hygiene promotion is a planned, systematic attempt to enable people to take action to prevent or mitigate WASH-related diseases. It is integral to all elements of WASH programming. Being based on dialogue, interaction and partnership, hygiene promotion approaches and methods provide a practical way to facilitate community participation and accountability through:

- community participation: Consultation on the design of infrastructure, composition of kits and appropriate outreach activities will help to achieve acceptance and engagement.
- use and maintenance of facilities: Providing user feedback on design and acceptability, ensuring regular maintenance and laying the foundation for longer-term maintenance.
- selection and distribution of hygiene items: Consultation and communication on selected items and their use.
- community and individual actions: Use of mass media, community dramas and group activities for both adults and children, outreach networks for home visits and engagement of local leaders in order to achieve behaviour change.
- communication with WASH stakeholders: Training and collaborating with local cooperatives, groups, NGOs, authorities and other sectors.
- monitoring: Regular monitoring of hygiene practices, and levels of actual usage of and satisfaction with facilities and hygiene items provided.

For more information on community participation and monitoring, see Chapter 3, Community Participation and Chapter 5, Information Management.

THE THREE WASH COMPONENTS ARE INTERRELATED
Hygiene promotion can never be a substitute for proper sanitation and sufficient water supplies, for they are key to practicing good hygiene. Conversely, water and sanitation interventions without targeted hygiene promotion and education will not achieve their full intended impacts.

Hygiene promotion messaging should ideally:

- target a small number of the highest risk practices
- target the audiences with the largest influence on the risk practice

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identify motives for changed behaviour and use clear, simple and positive hygiene messages
use a mix of accepted communication channels.

During the initial phases of a response, the priority focus of hygiene promotion will be on the prevention of diarrhoeal diseases through encouragement of:

- safe disposal of excreta
- effective hand washing
- reducing the contamination of household drinking water.

During this phase, hygiene promotion messaging is often limited to the use of mass media to rapidly transmit key messages.

REACH ALL WITH APPROPRIATE COMMUNICATIONS
When displaced communities originate from remote rural areas many, particularly women, girls and older persons, may lack literacy. Camp Management Agencies and WASH providers should be aware that written announcements or hand-outs often reach only a minority of literate males.

During later phases, the breadth of issues might be expanded to other environmentally-related diseases. A range of interactive platforms and approaches may be possible through engagement and partnership with local groups and actors. These could include:

- megaphones, radio/TV broadcast or public announcements
- posters, signs, paintings and cartoons
- meetings and focus group discussions
- celebrations, traditional and community events
- film and video presentations
- dramas, role plays, games and songs.

HYGIENE ITEMS
Appropriate and acceptable hygiene items may be required to enable safe practices. Proper hand washing and personal hygiene is not possible without soap and water, nor is the safe storage of water feasible without appropriate containers. Consultation with all segments of the camp population is needed to determine priority items. Post-distribution monitoring should be systematically conducted for feedback on items distributed.

For more information on non-food items and their distribution, see Chapter 13, Food Security and Non-Food Items.
COORDINATION CONCerns
Multiple sectors may be engaged in hygiene promotion related activities, and the Camp Management Agency will need to ensure coordination between:

- the education, health and WASH providers to harmonise hygiene messaging and materials
- the food security, shelter and WASH providers with regard to provision of hygiene items.

The Camp Management Agency should ensure agreement on respective roles and responsibilities and ensure conformity with national level guidelines from the relevant authorities or the national WASH cluster.

CLEANING AND MAINTENANCE OF WASH INFRASTRUCTURE
Cleaning and maintenance of WASH infrastructure is not the most pleasant work, but is necessary. Latrines will not be used if they are not clean, and water points may break down if not properly used and maintained. To keep all WASH infrastructure in good and useable condition, the involvement and support of the camp population is essential. Generally, the WASH provider will establish WASH Committees to ensure the regular maintenance of WASH infrastructure. Any remuneration for such activities must always be determined in coordination with other sector providers in the camp.

The Camp Management Agency has overall responsibility for the physical infrastructure of the camp. Initially maintenance may need to be under the direct administrative and financial management of the WASH provider in order to ensure continuity of life-saving services. As the situation stabilises, community-based WASH Committees should be encouraged and supported to take an active and expanded role in operational and maintenance tasks. In later phases the longer-term administrative and financial management of regular operations and maintenance work may fall to either the Camp Management Agency, the WASH provider or in urban areas the national authorities. The Camp Management Agency must ensure that clear roles and responsibilities are agreed and communicated among stakeholders.

In order to set up a well-functioning maintenance and monitoring system the WASH service provider, the WASH Committees and the camp population need to agree on roles and responsibilities, rules and regulations. A daily work plan for maintenance activities and inspections of WASH infrastructure should be established. Any gaps should be reported to the WASH provider. The WASH Committees, guided by the WASH provider and trained accordingly, can be made responsible for sensitising the camp population on the proper use, cleaning and maintenance of WASH infrastructure. WASH maintenance programmes are also commonly used as employment opportunities for camp residents.

The Camp Management Agency’s support and assistance will do much to assure that roles and responsibilities, rules and regulations are clear and agreed among all stakeholders including camp population, WASH service provider(s), WASH Committees and national authorities.

- For more information on community participation, see Chapter 3, Community Participation.

PERSONS WITH SPECIFIC NEEDS/PERSONS AT HEIGHTENED RISK
The concerns of camp residents with specific needs or those at heightened risk are frequently neglected or given insufficient priority. In a situation of displacement, this marginalisation may increase as the community will be under particular stress. Traditional social welfare structures can collapse and families may lack capacity to care for others. The WASH provider will generally consult with all segments of the camp population to ensure specific needs are identified and addressed. The Camp Management Agency should ensure that particular attention has been paid to the WASH concerns of these persons at risk. It is important to remember that:

- Women and girls are often responsible for fetching water for their families. Well-functioning and sufficient water taps and pumps, jerry cans and vessels will decrease the risk for women and girls fetching water outside the camp where it is difficult to offer them protection.
- Public WASH facilities should be well lit and safely placed, so that women and girls do not have to fear to use them in the night. Pathways to WASH infrastructure should be level so that people on crutches or in wheel chairs can use them.
- Design of latrines and other WASH facilities should consider the particular needs of small children and physically challenged persons. The WASH provider should design and construct special latrines and bathing facilities that are appropriate and allow these groups to use them safely and easily.
- When water for drinking or cleaning and hygiene items are in short supply, the WASH provider needs to make sure that supply is prioritised to persons with specific needs and those at risk. Babies, children under five, breastfeeding mothers and/or older persons will suffer first from a lack of basics, such as water or soap.
- Information campaigns should be launched to address common misconceptions in relation to sick persons, such as the belief that a person living with HIV/AIDS can contaminate shared water points through their physical contact with water. People need to be told that HIV/AIDS can only be transmitted through blood, sperm, sexual fluids and contaminated needles.

- For more information on persons with specific needs, see Chapter 11, Protection of Persons with Specific Needs.
Roles and Responsibilities

- Camp staff are trained in the protection and care of groups with specific needs and have signed a code of conduct.
- WASH issues have been incorporated into multi-sectoral assessments.
- Appropriate coordination structures have been established to ensure WASH is integrated into site planning and all public services and spaces.
- A sufficient number of WASH service providers are operating in the camp and a WASH sector lead is nominated.
- WASH providers have sufficient technical expertise, trained staff and good quality material available.
- Roles and responsibilities in the WASH sector are clarified and agreed upon by the Camp Management Agency, the WASH provider, the WASH Committees and the national sanitation authorities.
- ToR of WASH service providers and relevant authorities are fixed.
- The camp population is sufficiently informed about who is doing what, where and when concerning WASH activities.
- Concerned stakeholders have agreed on which international or local standards to apply in the camp WASH sector.
- WASH services and infrastructure have been set up according to standards, indicators and guidelines and are regularly maintained and monitored.
- An overall monitoring system of WASH interventions is put in place including coordination modalities to share information with the Camp Management Agency and all relevant actors in the camp.
- Work plans and data are shared.
- Services, gaps and needs are reported by the WASH service providers.
- The camp population, particularly women and girls, is fully involved in all aspects of WASH interventions, from planning and design to implementation and construction, to monitoring and coordination, to maintenance and cleaning.
- The Camp Management Agency and WASH provider use a community-based approach and support and promote the community’s involvement through the camp WASH Committees.
- Local knowledge and experience is considered and used.
- The Camp Management Agency’s and the WASH provider’s staff behave in culturally appropriate and sensitive ways vis-à-vis the camp population.

Water Supply

- The current water sources, inside and outside the camp, are known and mapped. Alternative water supply has been assessed.
- The level of the groundwater table is known and taken into consideration.
- The camp population has access to sufficient water of reasonable quality according to standards and indicators.
- Water points and sources are easily accessible, safe and protected.
- Water quality is regularly controlled and monitored.
- Particular attention is paid to good drainage around infrastructure for water supply.
- Water supply is organised based on assessment of short-term and long-term water needs.
- A contamination risk assessment for water and water sources has been carried out.
- If necessary, water has been treated accordingly to improve the quality.
- Camp residents have enough water storage facilities such as vessels and jerry cans.
- Agreements with the host community are made where water sources outside the camp are being used.
- Possibilities have been assessed whether and how the host community may benefit from camp WASH services provided.
- If water is rationed, the camp population is sufficiently and transparently informed about the reasons why and the alternative measures to apply.
- 4R Guidelines are applied.
- Persons with specific needs and those at risk are prioritised when water is scarce.

Excreta Disposal

- A sufficient number of safe and culturally appropriate latrines, washing and bathing facilities, laundry and drying facilities are available.
- Sanitation facilities are placed safely according to standards.
- The availability of local materials for construction has been assessed.
- Women and girls have been involved in the design and placement of sanitation facilities.
- Camp residents feel comfortable with WASH infrastructure and know how to use and maintain it.
- All sanitation facilities consider the aspects of comfort, hygiene, safety, privacy and cultural appropriateness.
- Local traditional defecation practices are known and considered in relation to hygiene and safety.
- The capacities of latrines in relation to the disposal of human excreta have been previously considered during the planning phase.
- Latrines are regularly emptied. All WASH infrastructure is frequently cleaned and maintained, as appropriate.
- Latrines and open defecation sites have hand washing facilities.
- The soil conditions for on-site disposal of human excreta have been assessed.
- Open defecation sites are fenced off and designated at a sufficient distance from individual shelters, groundwater and public infrastructure.
- The camp population is sufficiently informed about the risks that open defecation may have.

Solid Waste Disposal

- The local practices of disposing of solid waste are known and taken into consideration.
- The types of solid waste, such as domestic, commercial and medical, are identified.
- A regular and sound solid waste disposal system is established and monitored.
- Timetables and schedules for solid waste disposal are established in consultation with the camp population and WASH Committees. Mutual roles and responsibilities are clear.
- Rubbish sites, bins and containers are safe, designed and
designated according to standards and indicators.
✔ Medical waste is burned in incinerators under supervision of trained staff.
✔ Tools such as wheel barrows and shovels are available to collect and transport solid waste.
✔ Reusable material is collected, and given to those that can make use of it.

**Drainage**
✔ The camp site is generally clean.
✔ A technically appropriate drainage system has been established, ensuring the camp site is protected from standing wastewater and flooding.
✔ The drainage system is regularly maintained through the camp population and the WASH Committees.
✔ The slope of the camp site, the type of soil and the degree of infiltration are taken into consideration when planning and setting up the drainage system.
✔ Particular attention is paid to good drainage around WASH infrastructure.
✔ Tools and material are made available to the camp residents, so that they can protect their shelters and infrastructure from flooding and wastewater.
✔ The camp WASH Committees and the camp population are mobilised for cleaning and maintenance. Mutual roles and responsibilities are clear.

**Disposal of Dead Bodies**
✔ The mortality rate in the camp is known and monitored.
✔ Camp residents report all deaths to the local administration and the Camp Management Agency.
✔ Appropriate sites for burial and graveyards are fenced-off and designated at a safe distance from individual shelters and groundwater.
✔ Relatives of the deceased are supported with material for grave digging and burial as well as with burial shrouds.
✔ People who have died of typhus or cholera are buried rapidly.

**Vector Control**
✔ The local frequency of vector-borne diseases is known.
✔ Major vector-borne diseases are identified according to their level of risk.
✔ The camp population understands the relation between inadequate hygiene and vector-borne diseases.
✔ If chemicals are used for disinfection, they are known and adequately stored and used and concerned staff are thoroughly trained in how to do so.

**Hygiene Promotion**
✔ Major hygiene issues are identified and known.
✔ A strategy to promote hygiene is drawn up and hygiene education provided to the camp population.
✔ Clear and simple messages and information are provided to the camp population to promote hygiene.
✔ Women and children are involved in hygiene promotion to the maximum extent.
✔ Creative means, such as dramas, role-plays, cartoons and paintings are used to communicate with children and non-literate people.

**TOOLS**

**TOOLS AND REFERENCES**
All tools and references listed below are available on the electronic Camp Management Toolkit either on the USB memory stick accompanying every hardcopy or from the website: www.cmtoolkit.org.

**General WASH**
– OXFAM. Introduction to Contracting out PH Engineering Works and Contact Management
– OXFAM. Vulnerability and Socio-cultural Considerations for PHE in Emergencies
– Water, Engineering and Development Centre, Loughborough University. Choosing an Appropriate WASH Technology

**Water**
– OXFAM, 2008. Household Water Treatment and Storage
– World Health Organization (WHO), 2009. Delivering Safe Water by Tanker

**Sanitation**

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– WHO, 2009. Disposal of Dead Bodies in Emergency Conditions

**Drainage**
– OXFAM, 2008. Low Cost Drainage for Emergencies

**Vector Control**
– Global WASH Cluster (GWC). Reducing environmental impacts of vector control chemicals in emergencies

**Hygiene**
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