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# WASH Standards: Essential Concepts

## Everyone has the right to water and sanitation

The right to water and sanitation is recognised in international legal instruments. This right means that everyone should have access to sufficient, safe, acceptable, physically accessible, and affordable water for personal and domestic uses, such as cooking and cleaning. The right also calls for accessible sanitation facilities through private, safe, clean, and dignified sanitation facilities.

The right to water and sanitation is important **because an adequate amount of safe water and appropriate sanitation facilities are essential to:**

1. sustain life and health;
2. prevent death from dehydration;
3. reduce the risk of water, sanitation, and hygiene-related diseases; and
4. allow for adequate consumption, cooking, and personal and domestic hygienic requirements.

The right to water and sanitation is part of the universal rights essential for human survival, and States and non-State actors have responsibilities to fulfil the right. During armed conflict, for example, attacking, destroying, removing, or making water installations or irrigation works useless is prohibited. The right to water and sanitation is linked to other human rights, including the right to health, the right to adequate food, and the right to adequate housing.

**The WASH minimum standards reflect the core content of the right to water and sanitation and help to progressively realise the right.** The standards do not fully reflect the right to water and sanitation, and are closely linked to the other minimum standards. Realising the right to water and sanitation requires complementary responses in other sectors, and also requires the realisation of other universal rights that are reflected in the other minimum standards.

## WASH in humanitarian response

People affected by crises are generally more susceptible to illness and death from disease. Such diseases are related – to a large extent – to inadequate sanitation and water supplies, and the inability to maintain good hygiene. The most significant of these diseases are diarrhoeal and infectious diseases transmitted through the faecal-oral route. Other water- and sanitation-related diseases include those carried by vectors, including those associated with solid waste and water. The major means of transmission of the pathogens that cause diseases are identified in the “*F Diagram*” – fingers, flies, faeces, fluids, and food, which helps to outline WASH interventions (*see diagram*). Water is also a significant priority and reason that can lead to people moving before their access to water becomes critical.

The main objectives of WASH programmes in disaster responses are two-fold. The first is to reduce the transmission of faecal-oral disease-bearing vectors through the following:

- promoting good hygiene practices;
- providing safe drinking water;

- providing appropriate sanitation facilities;
- reducing environmental health risks; and
- ensuring conditions that allow people to live with good health, dignity, comfort, and safety.

The second objective is to ensure a safe and secure living and working environment.

**In WASH responses, it is critical to examine the bottlenecks and opportunities to reduce public health risks.** In the sanitation chain, for example, containment emptying, treatment, and disposal should be equally important when considering analysis, response, and recommendations. For the water chain, look equally at the risks and opportunities from the water source through to collection and storage at the household level before use.

In order to achieve the minimum standards in WASH, **it is necessary to work with other actors, as no one intervention can deliver all the necessary outcomes, including those beyond just WASH and health**, such as dignity and protection. Integration and coordination with many other sectors and responses is essential. For example, WASH has been included in the health standards on disease outbreak and nutrition standards to highlight the important connections between such responses, which have not always taken place to date. Effective WASH responses are critical to ensure the success of the prevention and reduction of diseases and for nutrition-related outcomes. The adaptability and capacity to work with both the private and public sectors is particularly important in WASH.

**Each context is different: examine the norms of the community and the context to determine the appropriate actions.** For example, the often-cited “15 litres of water per person per day” is *one indicator* (an absolute minimum based on good practice and expert opinion). This indicator must be contextualised in order to help to realise the standard (“All people have equitable and affordable access to a sufficient quantity of safe water to fulfil their drinking, cooking, personal, religious, and domestic hygiene needs”) in a particular setting. **Community engagement is particularly important to understand perceptions, needs, coping mechanisms, capacities, and the appropriate actions to take – both in terms of WASH hardware and software** (for example ownership, management, financing, etc.). Monitoring is particularly important to understand whether WASH interventions are appropriate or need to be adjusted. For example, the 1:20 ratio for a toilet may be inadequate if there are long queues at the toilet or if there are signs of open defecation.

**WASH requires a different approach in urban areas.** Community engagement can be more challenging, given the population density (for example, many people living in apartment blocks), and marginalised groups are more easily hidden. Public open spaces, media, and technology provide opportunities for sharing messages that are more easily accessible from a gender, cultural, or disability perspective. There is usually a greater diversity of asset ownership in urban contexts, whereas ownership in rural contexts is often at the household level, particularly with regards to sanitation. Ownership of assets has a significant impact on response options and modes of delivery. In service provision, it is crucial to remember that different groups of people trust private and public providers differently. Some interventions can be quick fixes (e.g. providing a generator), while others are longer-term (e.g. an overhaul of water treatment services, which may require specialised knowledge, large government or private sector budgets, and coordination with a multitude of stakeholders).

**WASH responses also provide an opportunity for cash and market-based programming** (i.e. cash or vouchers for hygiene items) and market strengthening (i.e. improving quality control compliance for consumers to have better quality goods available in the market). Cash-based assistance (CBA) for WASH programming needs the right enabling environment for relevance and appropriateness. Cash should generally complement many other WASH activities, including technical assistance and community engagement, for example equipping water providers with the capacity to ensure that

water is of safe quality. Like any delivery mode, Any CBA needs a robust MEAL framework so that there is a back-up plan, which can immediately be put in place, in case anything goes wrong.

Given that WASH is, at least partially, an infrastructure sector, sustainability of services and value for money are important considerations. More durable service delivery (including the 'soft side' of delivery, i.e. management, governance) – and not just infrastructure – should be considered much earlier in humanitarian responses.

### **WASH, Key Protection Considerations, and the Core Humanitarian Standard**

Protection in WASH responses is often considered from the perspective of personal protection and safety, for example, particular vulnerability during water collection, defecation, or menstrual hygiene management. While such personal protection elements continue to be essential, there is a shift within the WASH sector to ensure protection is part of the fundamentals of a WASH response and not just related to the outputs.

At the same time, the simple measures to increase protection are often forgotten in the first phase of a response, such as including locks on latrine doors and ensuring that water containers are not too big for children or women to carry. Engaging individuals and communities in all stages of the response can further help incorporate a protection lens into WASH programmes (*see Core Humanitarian Standard chapter*).

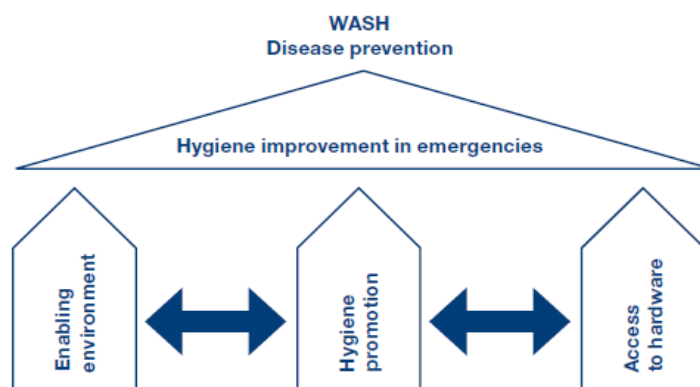
Water use has consequences for protection. Conflict and a lack of equity within a community, between districts, or across borders, for example, can have an impact on water security for individuals or groups. Multiple demands for water for human, domestic, and livelihoods purposes can cause protection concerns if short and long-term actions are not designed appropriately.

### **For further reading**

1. *The Rights to Water and Sanitation* (Information Portal). <http://www.righttowater.info>
2. GA Res. 64/292 (2010). *The human right to water and sanitation*. <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N09/479/35/PDF/N0947935.pdf?OpenElement>
3. OHCHR, UN-HABITAT, and WHO. (2010). *The Right to Water: Fact Sheet 31*. <http://www.ohchr.org/Documents/Publications/FactSheet35en.pdf>

## 1. Effective WASH programmes

The goals of any humanitarian WASH programme are to promote good personal and environmental hygiene to protect health (reduced morbidity and mortality), well-being and security, and to ensure a life with dignity. These goals are accomplished by ensuring that at risk communities have safe, sustained and equitable access to appropriate and adequate WASH services and systems and building on and enhancing the community's own capacities as well as those of local authorities. The range of expertise and intervention modes and mechanisms required to do this is vast, but the overall goals remain the same.



An effective WASH programme relies on an exchange of information between the organisation delivering the program and the disaster-affected population to identify key problems and culturally appropriate solutions. Ensuring the optimal use of all water supply and sanitation facilities and practicing good hygiene will result in the greatest impact on public health.

The humanitarian sector has been strengthening its focus on and commitment to community-centred responses in recent years. Community engagement in WASH is the planned and dynamic process of involving and connecting communities and other emergency response stakeholders so that communities affected by crisis have more control over the impact that the response has on them. Effective community engagement brings together the capacities and perspectives of communities and response teams maximizing community influence on and acceptance of the WASH response.

The following diagram illustrates what community engagement in a WASH programme should look like:



(Source, Oxfam – draft, August 2017).

In the context of community-centred response, building the community's own capacity to better prepare and respond is most effective when internal and external interventions look to the longer term. The concept of durable and sustained solutions captures this, and encompasses all elements of the WASH program, from infrastructure development to systems management to hygiene promotion and access to hygiene items.

An effective WASH program also relies on the integrity of that program, i.e. how the different elements work together. Long-standing evidence tells us that simply providing water and sanitation facilities will not, on their own, ensure their optimum access and use, nor deliver intended goals. Additionally, programming as a stand-alone sector potentially undermines desired outcomes for other sectors. Delivering this effectiveness demands a wide range of technical and other capacities and skills.

### **Effective WASH Programmes Standard 1.1: Accountable community engagement and action**

**WASH needs are communicated, acted upon and accounted for through the engagement of communities and stakeholders involved in humanitarian action.**

**Key action 1:** Identify the key WASH risks, needs and coping mechanisms in conjunction with the affected population.

<p><b>Key action 2:</b> Seek an understanding of the capacity and willingness of individuals and communities to participate in programme activities. Design programs on the basis of that capacity and willingness.</p>
<p><b>Key action 3:</b> Seek feedback on the design and acceptability of both facilities and promotional methods from all different user groups on all WASH programme activities, and adapt respectively.</p> <ul style="list-style-type: none"> <li>• Determine an appropriate and accessible system for all individuals to provide feedback.</li> <li>• Integrate that system into local or national information management systems (IMS) if they exist, or support the creation of a new IMS.</li> <li>• Ensure program are designed to be able to respond to the feedback.</li> </ul>
<p><b>Key indicators</b></p>
<p><b><i>Percentage of affected population consider the response has considered their expressed viewpoints and needs.</i></b></p> <ul style="list-style-type: none"> <li>• (CHS 1)</li> </ul>
<p><b><i>Percentage of affected population report their participation in the planning of strategic areas of the response.</i></b></p> <ul style="list-style-type: none"> <li>• (CHS 1)</li> </ul>
<p><b><i>Percentage of affected population report their participation in the delivery and monitoring of the response.</i></b></p>
<p><b><i>Percentage of affected population have access to effective feedback mechanisms.</i></b></p> <ul style="list-style-type: none"> <li>• (CHS 5)</li> </ul>
<p><b><i>Percentage of affected population understand the roles, responsibilities and entitlements from the individuals providing humanitarian assistance.</i></b></p> <ul style="list-style-type: none"> <li>• (CHS 4)</li> </ul>
<p><b>What else do I need to know?</b></p> <p><b><i>Assessments (ask, listen, communicate and observe)</i></b>  Assessment methods may include exploratory walks (transect walk), key information interviews, community maps, Venn diagrams, focus group discussions or technical appraisals of the WASH infrastructure (inclusive of markets).</p> <p><b><i>Applied socio-anthropological analysis</i></b>  Capacity in socio-anthropological analysis can help programme teams understand community perceptions of risk, norms and beliefs before and during the outbreak; community self-reliance and coping strategies; community (leadership) structures; and local concerns and priorities.</p> <p><b><i>Making hardware work</i></b>  It is critical to ensure that WASH staff (engineers, technicians and hygiene promoters) coordinate, plan, implement and monitor their efforts to acknowledge and understand the users' needs and preferences on siting and design before the engineers' design and build the WASH facilities.</p>

### **Feedback mechanisms**

Feedback and complaints mechanisms should be designed and set up to enable different groups to access them, and that affected populations can be listened to in a respectful, and private manner. Thereafter WASH staff should act in a timely, coherent and transparent manner by providing the feedback and action necessary based on the views from the communities affected. Closing the feedback loop is critical, and should ensure that communities are informed of what has been done with the information they provided (feedback). Community reactions should be acknowledged. Feedback mechanisms can include a help desk during distributions, the set-up of a free phone number that communities can call to communicate their suggestions and complaints, or identifying an independent individual(s) in the community (listening groups) who can be trusted with receiving feedback (as an intermediary) and confidentially passed on to the respective persons/organisation responsible.

## **Effective WASH Programmes Standard 1.2: Sustainable solutions**

**WASH interventions are planned, designed and implemented so that long-term community goals and environmental impacts are enhanced.**

**Key action 1:** Ensure that response plans (common or agency-specific) look to the longer term through modality and technology choice, strategic timing and phasing, community engagement, private sector and market engagement, and funding / financing options.

**Key action 2:** Understand the pre-crisis WASH context including elements such as : equipment, materials or other items available and used locally; community preferences and taboos; pre-existing WASH-related problems and challenges (health, protection); access to service providers; national strategies and local implementation of them; regulatory structures.

**Key action 3:** Determine the impact of the crisis on the existing WASH context and coping mechanisms. Assess WASH-related risks. Identify vulnerable people who may be at increased risk of a lack of access to WASH services, such as women, children, older people, people with disabilities, those from marginalised communities, or those in hard to reach locations.

**Key action 4:** Identify solutions that are applicable in the immediate phase that can be augmented, enhanced, modified or otherwise changed as the situation changes.

- Infrastructure can be modularised or phased (see Water Supply and Excreta Management)
- Community engagement programs can become more sophisticated and diverse (see Hygiene)

**Key action 5:** Engage with any existing local or national authorities to enhance their ability to respond, especially to restore, rehabilitate or repair systems.

- Personnel capacities, equipment, planning,
- Technical support
- Financing and funding

**Key action 6:** Identify environmentally sustainable WASH interventions that reflect the broader sustainability requirements of the communities involved.



<p><b>Key action 7:</b> Incorporate environmental impact management into all WASH planning, from strategic to technical assessment and design.</p>
<p><b>Key action 8:</b> Use materials (including their sourcing and supply chain) and techniques appropriate to the context (familiar, acceptable, affordable) that:</p> <ul style="list-style-type: none"> <li>• Avoid depleting local natural resources, or using materials that could lead to long-term environmental damage.</li> <li>• Minimise the removal of natural vegetation and the disruption of natural drainage.</li> <li>• Leave the site in a state that will allow the local population to make use of it immediately and where possible leave the site in better condition than before.</li> <li>• Promote use of materials that can be recycled, reused or repurposed, and develop impact mitigation plans when necessary.</li> <li>• Promote sustainable material production/management</li> </ul> <p>(See Annex xx: Delivering Through Markets for further guidance on supply chain / procurement practices, market analysis and monitoring.)</p>
<p><b>Key indicators</b></p>
<p><b><i>Percentage of WASH interventions that demonstrate minimising adverse environmental impacts and support environmental sustainability outcomes</i></b></p> <ul style="list-style-type: none"> <li>• 100%</li> </ul>
<p><b>What else do I need to know?</b></p> <p>Sustainable WASH solutions will necessarily be intimately linked with other sustainable solutions, especially shelter.</p> <p><b>Phasing</b></p> <p>Assistance may be a series of assistance options depending on location and timing during the response. At a minimum, the process should work to achieve adequate, equitable and appropriate access to WASH services. In both conflict and natural disaster contexts, the recovery process may not be linear nor follow a set time scale to achieve a durable solution. A crisis will affect each household and community differently, and each will take different paths to arrive at a durable solution according to its capacities, vulnerabilities, assets and preferences.</p> <p>Combinations of assistance may be required to meet the needs of various groups of the affected populations. For those who are able to remain safely in their house or land or are able to return immediately from evacuation, supporting these households to be as near as possible to their original house with repairs to existing WASH facilities at the household level or institutional / communal facilities as well as access to hygiene items in local markets, will make it easier for households to practice better hygiene behaviours. If the rehabilitation, repair and rebuild process takes an unacceptably long time, and exposes people to protection risks, support to host families or communities to meet all affected people's needs should be considered. In cases of relocation to an undeveloped or under-developed site, the provision of shared or communal emergency infrastructure as well as direct distribution of items, could be the most effective response. Note that new or unexpected developments in the situation may require a shift to a more emergency modality.</p> <p><b>Implementation mode</b></p> <p>There are many ways of delivering WASH assistance and the choice of implementation modality can be a significant contributing factor to whether a programme achieves the desired quality and effectiveness of outcomes. In addition, different modalities have positive and negative aspects</p>

that contribute to a range of indirect impacts such as sense of ownership, participation, social cohesion, gender dynamics, economic recovery of the affected area, livelihoods creation and market and supply chain recovery.

WASH assistance options vary, from ensuring access to household items to the construction of infrastructure to hygiene promotion and community mobilisation. Whatever the assistance modality chosen, quality control and technical assistance to ensure health and safety and build back safer criteria, as well as to ensure desired WASH outcomes, is critical.

Technical assistance is an integral part of any WASH response, regardless of the assistance option or implementation mode. Whatever form it takes, technical support should be timely, appropriate to the context, adapted to particular assistance options, consistent and clear, accessible, achievable and deliver sustained outcomes.

A combination of modalities may yield the optimum result. For example, a combination of technical assistance and quality assurance services, cash or vouchers, and in-kind support might be offered to households for a water supply project. Vulnerable households that might struggle to manage developing infrastructure, such as toilets, might benefit from having a contractor directly commissioned. To increase the local capacity to deliver at scale, skills training can be offered to local unskilled labourers.

The modality or modalities chosen can have additional benefit to those receiving assistance, to the host community government and to the providers of assistance. Comprehending the indirect repercussions and choosing the mode that brings the most benefit will add to the quality of the assistance. For example, owner-driven reconstruction of toilets may yield greater ownership of the completed toilet than one that is commissioned to a contractor and are likely to align better with national or local community-led sanitation programs. Employing people from host communities to construct them may offer opportunities for the two groups to interface as well as offer practical livelihoods opportunities and lead to greater social cohesion. Using cash grants may create a multiplier effect on the local market. Other examples of indirect impacts include improvement of gender dynamics, economic recovery of the affected area, livelihoods creation and market and supply chain recovery. Avoid child labour. See the Inter-Agency Guidelines on Child Labour in Emergencies.

See also Annex on Delivering through Markets.

### ***Security of tenure***

In the development context, one significant factor in people accessing improved sanitation or safe drinking water lies in security of tenure for where they live. If that security is unstable, unknown, informal or otherwise threatened, household investment in improved WASH services is unlikely to be significant. That situation does not change in a humanitarian context. As described in Shelter Standard 2.1, security of tenure is an integral part of the right to adequate housing, which includes access to WASH services. WASH programmers will need to work with Shelter counterparts and others to ensure that right is attained. See Shelter Standard 2.1 for more information and further information and reading.

### ***Subsidies***

Many national sanitation programs are based on the concepts of no or very limited subsidies. These include Community-Led Total Sanitation (CLTS) and other similar approaches. The failure of earlier sanitation programmes, where toilets were built as part of an

external intervention, is thought to lie with a lack of real ownership and desire for the toilets by the households. These community-led programs use aspects of social norms and taboos to trigger households to invest in their own toilets, thus directly creating ownership. While not the “silver bullet” solution to the world’s sanitation gap, these programs have experienced some successes creating sustained access to improved sanitation.

Conversely, emergency sanitation programs are usually based on ensuring as many people as possible in an affected community have access to a toilet so as to minimise the health and protection risks posed by open defecation, and that toilet is often constructed by humanitarian actors.

There is a very real potential for emergency sanitation programs to undermine community-led sanitation programs, either in nearby host communities or for the affected population in the future. And there is a real further potential for communities to revert to open defecation, and the huge health and protection risks this poses, once the humanitarian support leaves. An understanding of the national and local context in this regard and adapting emergency sanitation programs is critical to ensuring that this does not happen.

### **Effective WASH Programmes Standard 1.3: Integrated WASH programmes**

**WASH programs are planned, designed and implemented to ensure optimal effectiveness of the program, and that desired WASH outcomes are enhanced by other interventions, and WASH interventions support and enhance outcomes in other sectors.**

**Key action 1:** Ensure that any WASH intervention taken by an organisation is integrated with all other WASH interventions affecting a community. Preferably, in contexts where it’s possible, a single agency or organisation should be responsible for the entire WASH program, although other entities may implement activities.

**Key action 2:** Ensure that any WASH intervention is carried out as part of or in alignment with an overall WASH sector strategy. If no such strategy exists, work with sector leads to develop one.

- Depending on timing and phasing, participate in the development of an overall WASH sector strategy.
- In support of developing this strategy, participate in WASH sector or multi-sector assessments in locations where you have expertise and experience. This could also include market assessments.

**Key action 3:** Plan, design and implement WASH interventions with other relevant sectors (such as Shelter, Nutrition or Health), or with cross-sectoral working cutting groups (such as MHPSS or HIV) at all levels to ensure synergies in response.

- As relevant to local context, support communicable disease surveillance and reporting.
- Undertake preparedness activities with other relevant sectors, especially in contexts such as cholera preparedness.

<p><b>Key action 4:</b> As much as is possible, integrate WASH programming around at risk groups such as pregnant and lactating women, infants and children, older people, people with disabilities, people with HIV, etc. Consider and ameliorate potential for stigmatization.</p>
<p><b>Key action 5:</b> Ensure that WASH programs have enough staff with relevant capacity, expertise and skills.</p> <ul style="list-style-type: none"> <li>• Undertake a personnel mapping exercise to ascertain what the relevant capacities, expertise and skills are required, and what the existing capacities are.</li> <li>• Fill the gap by recruitment or capacity building of existing staff.</li> <li>• Ensure that staff work and live in safe environments.</li> <li>• Ensure that potential local staff are integrated into this action.</li> </ul>
<p><b>Key indicators</b></p>
<p><b><i>Percentage of affected people who report dissatisfaction with missing WASH elements</i></b></p> <ul style="list-style-type: none"> <li>• 0%</li> </ul>
<p><b><i>% of WASH interventions that align with national or local humanitarian WASH sector strategies</i></b></p> <ul style="list-style-type: none"> <li>• 100%</li> </ul>
<p><b>What else do I need to know?</b></p> <p><b><i>Epidemiological data surveillance, and analysis</i></b>  Epidemiological data can build an understanding of local disease transmission routes, and help set priorities for responses to rapidly evolving contexts. Such data is also fundamental to framing viable and effective response options.</p> <p><b><i>Making hardware work</i></b>  It is critical to ensure that all WASH staff (engineers, technicians and hygiene promoters) coordinate, plan, implement and monitor their efforts to acknowledge and understand the users' needs and preferences on siting and design before the engineers' design and build the WASH facilities. Engagement with other organisational staff, such as procurement and logistics, finance and administrative, and HR is also critical to ensuring the final WASH outcome.</p> <p><b><i>WASH as package</i></b>  Design, implement, monitor and evaluate all WASH programmes as an integrated package – water supply, excreta disposal, hand washing, hygiene promotion, solid waste management and drainage as WASH. One area may be prioritised over another, which is appropriate and dependant on the context (e.g. cholera, drought). Secondly some donors may fund one WASH agency to implement the water supply, whilst another implements sanitation, and another is responsible for community engagement and hygiene promotion. In these instances, it is critical that an integrated and accountable feedback system (one of and shared across all the WASH agencies) is set up to enable communities to air their feedback once, and provide it to one central point for review and consolidation.</p> <p><b><i>Coordinating with others</i></b>  WASH staff should coordinate with a wide range of actors ranging from education (WASH in schools), to shelter (WASH in shelter programmes), to health (WASH in disease outbreaks, and WASH in health facilities), to livelihoods (joint outcomes), to cash (minimum expenditure basket; multi sectoral) and WASH and nutrition.</p>

***Civil-military coordination***

In many contexts, military actors (State or non-State, formal or informal, international or local) play a role in the WASH sector, as well as the overall response. In some contexts they may be coordinating it, in others they may play a role in creating the situation, and in others they may deliver humanitarian action. Experiences with military actors in one location might be very different to those in another.

Beyond the general need for coordination, in many first phase contexts, humanitarian actors may find themselves delivering WASH services alongside military personnel. In WASH, this can include repair or rehabilitation of WASH infrastructure, distribution of hygiene items, even hygiene promotion activities. It could also include transport for WASH items to difficult to reach areas, liaison with allied or other military actors also delivering WASH services, or opportunities for technical support and exchange.

**References**

1. OCHA UNEOP Environment Marker Guidance Note, from [https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/Environment%20Marker%2BGuidance%20Note Global 2014-05-09.pdf](https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/Environment%20Marker%2BGuidance%20Note%20Global%202014-05-09.pdf)

## 2. Hygiene

Water, sanitation, and hygiene-related diseases cause significant preventable deaths and sickness in crises. Hygiene promotion cultivates behaviours that reduce threats from water, sanitation, and hygiene-related diseases. It encourages people to use water, sanitation, and hygiene enabling facilities and services appropriately.

Hygiene promotion and community engagement are fundamental to a successful WASH response. Working in partnership with communities and the providers of basic WASH infrastructure will help people to adopt healthy behaviours.

People at risk vary depending on their coping mechanisms, displacement status, customs, norms, culture, and resources. The situations and variety of people at risk means that a standardised approach (or “cut and paste” from a previous response) will not be effective.

Effective hygiene promotion is based on dialogue and interaction with the affected populations. This is done in three ways:

- community engagement and action;
- sharing of information and knowledge; and
- ensuring access and use of essential facilities, services and materials.

Hygiene promotion is not only about providing messages, information, and the distribution of hygiene kits. It involves engagement and mobilisation of communities, promotion of positive health-seeking behaviour, and facilitating community and individual action leading to a more effective outcome.

These three standards focus on the importance of promoting hygiene, providing access, and promoting the use of WASH services, goods, and systems in order to promote well-being and dignity.

### Hygiene Standard 2.1: Hygiene promotion implementation

**Affected people are aware of key WASH-related public health risks and encouraged to adopt individual, and collective measures increasing health-seeking behaviours to mitigate public health risks.**

**Key action 1:** Determine the main public health threats to the affected population.

- Coordinate with health actors to collect and analyse public health surveillance data, programme response data, and other health indicators, which should continually inform the programme response and monitoring systems as the context changes.

**Key action 2:** Assess current behaviours and practices among the affected population as they relate to the main public health risks.

**Key action 3:** Identify barriers and motivators to adopting health-seeking behaviours. Consider:

- Consider:
  - What are the power dynamics and social structures in the community?
  - Who makes decisions at household and community levels?
  - Who is most vulnerable and why?

<ul style="list-style-type: none"> <li>• Understand how and where they access health care (e.g. traditional healers, public and or/private) and their perceived quality of this access and service.</li> <li>• Understand who governs the operation, maintenance and accountability of WASH services, goods and infrastructure (informal and formal mechanisms).</li> </ul>
<p><b>Key action 4:</b> Train communities to monitor, report, and provide feedback on WASH disease incidence and risk behaviours.</p> <ul style="list-style-type: none"> <li>• Seek feedback on the infrastructure and services.</li> </ul>
<p><b>Key indicators</b></p>
<p><b>Percentage of target population that can describe and demonstrate what they have done to improve hygiene conditions.</b></p> <ul style="list-style-type: none"> <li>• 75%</li> </ul>
<p><b>Percentage of the target population (especially women and girls), that expresses satisfaction in the consultation, design, and siting of WASH facilities.</b></p> <ul style="list-style-type: none"> <li>• All women and girls are able to use the toilet and bathing facilities day and night at all times.</li> </ul>
<p><b>Percentage of older people, people with disabilities and others with special needs that express satisfaction in the consultation, design, and siting of WASH facilities.</b></p> <ul style="list-style-type: none"> <li>• 100%</li> </ul>
<p><b>Number of Community Mobilisers / Community Hygiene Promoters, Community Hygiene Workers (terms used dependent on context).</b></p> <ul style="list-style-type: none"> <li>• 2 per 1000</li> </ul>
<p><b>Percentage of WASH facilities appropriately used, cleaned, and maintained daily.</b></p> <ul style="list-style-type: none"> <li>• 100% functional, used, and cleaned WASH facilities</li> <li>• No faecal matter in community</li> </ul>
<p><b>Percentage of target population who can identify the importance of hand-washing and are able to cite three of the five critical hand-washing times.</b></p> <ul style="list-style-type: none"> <li>• 75% cite 3 of the 5 critical hand-washing times</li> <li>• Equipped with 250 grams of soap per person per month; water for hand washing; hand washing station, and/or NFI items</li> </ul>
<p><b>What else do I need to know?</b></p> <p><b>Mitigating public health risks</b></p> <p><b>Excreta management</b></p> <p>Appropriate excreta disposal is the primary means of preventing faecal-oral transmission of diarrhoeal diseases. See Standard 4 excreta management.</p> <p><b>Handwashing</b></p> <p>Handwashing with soap (or alternative) prevents faecal-oral transmission of diarrhoeal diseases. Hand-washing stations should be located to make hand-washing convenient during critical times (within the household or near a latrine).</p>

**Critical handwashing times:**

- after defecation;
- before eating;
- before food preparation;
- after cleaning a child's bottom; and
- before breastfeeding.

Identify potential motivators of good practice (for example, foot steps/slabs from the latrine to the handwashing facility, providing a mirror at the hand-washing station, health-seeking behaviour images etc.). Provide simple measures to promote knowledge and practice in hand-washing. For example, provide soap and water, and ensure tap and soap is reachable from different heights.

***Safe water chain promotion***

Refer to Standard 3 – Water supply. Knowledge and practice of safe collection, transport, and storage of drinking water is key to reducing contamination risks. Communities should have access to separate containers for collection and storage of drinking water (see Hygiene Standard 2 below – identification, access and use of hygiene items).

***Household water treatment-community engagement***

Refer to Water supply Standard 3. Hygiene promotion with community engagement is key when implementing household water treatment – during the planning, implementation, and follow-up.

***Community engagement***

Community engagement and hygiene promotion provides us the opportunity to engage with an existing structure, or to develop new ones. Terms in the WASH sector vary across regions, and contexts ranging from - community hygiene workers, community hygiene promoters and community mobilisers. In essence these 'outreach workers' engage communities in reducing public health risks, and taking action to maintain healthy behaviours.

One should note in the Health sector their 'outreach workers' are known as community health workers, which should not be confused with either of the aforementioned terms. Whilst their role is similar to the WASH teams, there are explicit differences in health (e.g. maternal health).

***Process***

Discuss with the affected population, national health authorities, implementing organisations and clusters (i.e. Health and WASH) to reach an agreement on the appropriate engagement strategy for the short and long term. Be aware that providing payment for work that would normally be done on a voluntary basis may create tension and disrupt the long-term sustainability of systems as per the national legislation. Be clear on the definition of their terms and conditions - voluntary, incentive based (e.g. in kind household donations, t-shirts, top up of mobile phone credit) to paid salaries.

***Who***

Use facilitators who can work with groups that might share beliefs and practices different from their own. They should engage and motivate communities to identify risks and opportunities, and take appropriate action. They must respect the community and in turn, be highly-respected by the community. Maintain an equal ratio of male to female workers where appropriate.

***How many***

Provide at least two community hygiene workers/community hygiene promoters/community mobilisers per 1000 people. More may be appropriate in different contexts.



Consider:

- setting (camp, rural or urban areas);
- population density;
- existing community knowledge of public health risks;
- the severity of the current public health risk; and
- existence and effectiveness of outreach structures (for example, Ministry of Health, and other outreach teams).

**Methods and approaches**

***Drama (street theatre and puppet show)***

Use drama, with the participation of the community, as a lively and spontaneous learning tool. Puppets should be interactive and are especially useful for communicating with children. Music, dance and dramas offer opportunities to include the youth.

***Mass media***

Use TV, radio (information, and 2-way question & answer radio broadcast session), SMS messages (2-way), and social media to provide information, and updates. Consider those who are illiterate, have communication difficulties and/or do not have access to mobile phones, radio, or television, or are and those who are unable to leave their homes due to care responsibilities. Popular media (drama, songs, street theatre, dance, etc.) is also useful.

***Working with children and young people***

Children are catalysts for change and are well placed to promote healthy behaviours to their peers and family members. Including key (healthy) behaviours in children's early age is important both in and out of the school environment. Coordinate with the Department of Education (local government) and the Education cluster (where appropriate) to identify opportunities for promoting hygiene in schools, for children in residential care, child headed households and those living on the street. Youths are an excellent communication channel between their younger siblings and their parents, so find a way for them to participate in stakeholder discussions and other activities as well.

***Information, Education and Communication (IEC)***

Design IEC material with the community and local authorities for each context and response. Test them before mass production. Coordinate with the WASH and Health National level authorities and the cluster to standardise the IEC materials. Ensure that information is prioritised and focuses on practical actions that can be taken.

***One to one (interpersonal) communication***

Household visits offer the opportunity to assess the domestic environment and to tailor the hygiene promotion to the specific needs to the family. Moreover, it can provide an opportunity for the household to interact and provide feedback. Examine the specific context and assess the appropriateness of house-to-house visits. Coordinate with other sectors to ensure that households are not inundated with different teams with different demands and activities.

***Equity and inclusion***

Shifting gender norms and challenging gender stereotypes are key to effective and ethical programming. There is a tendency to focus only on women as the primary parties responsible for hygiene in the family, without understanding the role of men. Ensure that both men and women are included in hygiene promotion activities. Also target men to promote male support for proper

hygiene behaviours by all family members. Active hygiene support by men may have a decisive influence on behaviours in the family.

#### ***Adequate operation and maintenance***

WASH interventions should focus on increasing the self-sufficiency of any affected population. Engage appropriate community entities in the operation and maintenance of services, and the gradual integration of community WASH services with local systems during recovery. Work with the affected population, implementing organisations and coordination bodies to agree on common procedures for this transition and maintenance.

#### ***People on the move***

Where people are “on the move” find opportunities to engage with communities either by joining them or by meeting them on rest breaks. Use communication channels such as radio, SMS, Facebook, WhatsApp groups, and free hotlines to provide hygiene information and feedback mechanisms. The design of the Non-Food Item (NFI) package can support this in providing mobile phones, solar chargers to enable the affected population access to information, feedback, and communicating with their families (linkages with protection).

#### ***Coordination and representation***

Represent and advocate on behalf of the needs of the different community groups to the relevant policy and decision makers. Ensure the voice of the community is heard and accounted for in planning, design, implementation and coordination meetings at all times.

## **Hygiene Standard 2.2: Identification, access, and use of hygiene items**

**The affected population has access to, identifies, and promotes the use of hygiene items that ensure personal hygiene, health, dignity, and well-being.**

**Key action 1:** Consult with the community to understand and identify the critical hygiene items they require individually, as a household, and as a community.

- Understand the different hygiene item needs and preferences of different groups within the population. Specific examples include extra soap, menstrual hygiene materials, incontinence materials, nappies, or potties for young children and appropriately sized water collection containers.
- Examine how hygiene needs and risks change, due to seasonal variation, and/or income level variations.
- Identify the additional items required to maintain a public risk free and hygienic environment (for example solid waste facilities, shared family, and/or communal latrines) according to the phasing of neighbourhood, communal or household level infrastructure.

**Key action 2:** Conduct a market assessment to determine which WASH goods and services related to hygiene are available in the local market.

- Identify and analyse together with households what, where, who, and how they accessed hygiene items pre and post-crisis. Take into account the seasonality of supply and demand.

<ul style="list-style-type: none"> <li>• Evaluate the market actors (local, national, regional) in terms of cost, durability, quality of hygiene items and whether they can meet the demands.</li> <li>• Analyse and recommend the appropriate implementation mode for providing hygiene items.</li> </ul>
<p><b>Key action 3:</b> Make a distribution plan in collaboration with the community and local authorities.</p> <ul style="list-style-type: none"> <li>• Make key information about providing hygiene items/vouchers/cash available publicly. Include information on timing, location, content, and target groups.</li> <li>• Prioritise the safety and privacy of the affected population and staff when organising the distribution. Ensure that sufficient space, time, and human resources are available to manage the distribution.</li> <li>• Consult with other sectors/teams and actors to plan joint distributions to optimise time and resource utilisation.</li> <li>• Coordinate with other WASH actors and other sectors to ensure that there is consistency in the contents and targeting of the items.</li> </ul>
<p><b>Key action 4:</b> Monitor the affected population and seek feedback to determine if hygiene items have reached the most vulnerable and if they are appropriate; durable; and are being used.</p> <ul style="list-style-type: none"> <li>• Carry out gender and age-sensitive post distribution monitoring to assess the use overall satisfaction and rate of return of the hygiene items.</li> <li>• Set up safe and responsive feedback mechanisms that men, women, and children of all ages can use.</li> </ul>
<p><b>Key indicators</b></p>
<p><b><i>Percentage of affected population that have hygiene items suitable for their priority needs.</i></b></p> <ul style="list-style-type: none"> <li>• 100%</li> </ul>
<p><b><i>Percentage of households that use appropriate and sufficient containers to safely collect and store water for drinking and domestic at all times.</i></b></p> <ul style="list-style-type: none"> <li>• 100%</li> <li>• 2 water containers per household (1 for collection, 1 for storage) at all times - 100%</li> </ul> <p>In urban contexts, or in centralised supplies in camps, the storage in the HH should be sufficient to guarantee uninterrupted supply between successive refilling at ordinary consumption levels (including peak consumption, where relevant).</p>
<p><b><i>Percentage of the affected population (households) using soap and water (or alternative) for hand washing.</i></b></p> <ul style="list-style-type: none"> <li>• 100%</li> <li>• 250g soap/p/month</li> <li>• Hand-washing station/ NFI items</li> <li>• Water supply for hand-washing</li> </ul>

***Percentage of the affected population that have access to and use laundry soap for household laundry.***

- 100%
- 200g laundry soap/p/month

***Percentage of babies and infants whose faeces that are contained and disposed of immediately and hygienically.***

- 100%
- No presence of faeces in community

**What else do I need to know?**

***Specific consultations:***

***Children's faeces***

Seek input from parents, carers, and children when choosing appropriate containment, and disposal methods, for children's faeces. Decide what infrastructure (for example, potties) to use and what disposal management system to implement.

***Water containers***

Identify the appropriate size and type of water container for collection and storage of drinking and domestic water. Too often water bearers are children and women - the size, and type of containers should be appropriate for them to use. As mentioned in the Water supply standard water containers should be narrow necked, and equipped with a lid/top. Each household should be equipped with at least 2 water containers: 1 for collection and 1 for storage to maintain safe water chain practices. The number of, size, and type is determined by the context e.g. urban locations may require larger storage tanks given the intermittent water supply.

***Soap***

Understand the quantities and type of soap preferred by the community for hand washing, personal, cooking facility utensil and clothes washing.

***Special needs***

Some people with specific needs (for example, those associated with age, disability, health (HIV or incontinence)) may require larger quantities of personal hygiene items such as soap and water containers for bathing. Persons with disabilities or those with mobility limitations (including older people in families that have access to a latrine), those confined to a bed or a wheelchair may need additional items such as extra soap, cloth or incontinence pads, containers for water, plastic covers for mattresses, bed pans, or a commode chair. While providing them the culturally appropriate hygiene items also ensure that there is a dignified system for collection and disposal of their waste. People with severe neurological and/or intellectual disabilities may also require support and encouragement to use a toilet. Seek guidance from the person's family carers and involve them in influencing their family member, if they face any difficulty.

***Sexual and gender minorities (SGM)***

Protection specialist must undertake or lead any consultation with SGM to establish their WASH needs and priorities. This is particularly important as people who are SGM face higher

discrimination in many contexts around the world. Heightening their visibility can significantly increase the discrimination against them and put them at increased risk of violence.

### ***Culturally and context appropriate***

Each response requires culturally, and context appropriate hygiene kits. Prioritise the critical items required in the initial emergency phase (such as soap, water containers, menstruation and incontinence materials) over the ‘nice-to-have’ items (such as, hair brush, shampoo, toothpaste, toothbrush).

### ***Distributions***

Prioritise the safety of the affected population and staff when organising the distribution of the hygiene items/cash or vouchers (coordinate with the protection and/or security teams, where appropriate). Understand the different levels of marginalisation and stigmatisation within the population, and the ability of people to stand in queues for long periods of time. Consider distributing at households or designate separate distribution lines (ensure this does not have a further negative effect on the individuals concerned). Involve women and men in drawing up the lists for distributions and the plans for the distribution. Publicly display the list of items to which people are entitled. This will reduce the risk of protection abuses, and honour measures for accountability.

### ***Distribution teams***

A distribution team exclusively responsible for the distribution of NFIs enables the hygiene promotion staff to concentrate on their critical core competencies (engaging communities and taking action to mitigate public health risks).

### ***Cash and markets***

Market assessment should reveal the most relevant, and appropriate method of providing essential hygiene items. This could vary from providing vouchers to exchange for kits at specified vendors, to increasing the stock levels and diversity of vendor’s products, to improving the infrastructure of vendor’s shops/kiosks.

### ***Income levels***

Understand household income levels and expenditure patterns/limitations. Understand gender expenditure patterns and identify the decision-makers regarding household expenditure. Understand how households prioritise expenditure on which hygiene items (by whom – age and sex) and if seasonal changes determine priorities. Pay attention to how menstrual hygiene is managed when cash transfers are used.

### ***Replacement***

Consider the replacement requirements of consumables like soap, menstruation, and incontinence materials. Periodically review the market. Market changes can provide opportunities to modify the methods used to procure hygiene items. For example, switching from in-kind to voucher, and/or cash. Coordinate the approach (decision making) with the community, local authorities, the local market, and the Clusters where appropriate.

### ***Vector control***

Refer to Health Standard - communicable diseases, WASH standard - vector control, and Shelter standard as vector control is cross cutting across a number of sectors. Coordinate with the local authorities, and organisations with a specialisation in vector control (e.g. malaria) especially when determining the preparedness and response action plan.

### ***Coordination and joint distributions***

Create links with other sectors to engage in joint community consultations and to understand needs and coping mechanisms from a multisectoral perspective. Address multiple needs at the same time and save time and money across sectors. Ensure that households can transport all the distributed items to their house/shelter following the distribution.

### ***People on the move***

In urban and rural areas where people are 'on the move' ensure transportability of any distributed NFI items. Hygiene kiosks or tables where people can select the items they require rather than giving out full kits can be an appropriate distribution method. Ensure that a system for solid waste collection and disposal is in place where people are on the move.

### ***Opportunities for a livelihood / enterprise development***

Set up a soap or sanitary towel production enterprise depending on the supply and demand of certain hygiene items and livelihood opportunities.

### ***Natural environment***

Consider how boiling drinking water before consumption also promotes environmental degradation and puts women and girls at risk. It leads to increased deforestation and protection issues for women and girls who must collect firewood.

## **Hygiene Standard 2.3: Menstrual hygiene management (MHM) and incontinence.**

**Women and girls have appropriate and dignified access to safe menstrual hygiene products. Males and females who have incontinence have access to appropriate and safe incontinence hygiene products and have culturally sensitive ways to manage them.**

**Key action 1:** Understand the cultural and religious beliefs, social norms, and myths concerning menstrual hygiene and management of incontinence.

- Discuss key priorities with women and girls and people with incontinence. Identify solutions to the challenges they face and design systems for feedback.
- Ensure that men and boys clearly understand and support the needs of women and girls.

**Key action 2:** Develop the most appropriate menstrual hygiene management and incontinent management infrastructure solutions.

- Consult women, girls, and people with incontinence regarding the siting of:
  - toilets;
  - bathing areas;
  - laundry areas (equipped with an appropriate place for drying);
  - disposal; and
  - water supply.

**Key action 3:** Ensure access to appropriate sanitary protection material, incontinence material, soap (for bathing, laundry and hand-washing), and other hygiene items to assist with menstrual hygiene and incontinence.

- In the context of in-kind distributions, ensure these materials are provided in discrete and private locations to reduce stigma, and in a dignified manner.
- Demonstrations of proper usage should be provided where required.
- Consider initiating and supporting a programme that encourages and shows women and girls or people with incontinence how to make their own sanitary protection or incontinence protection materials.
- Encourage the establishment of such efforts as social enterprises (making sure that there is supply and demand).
- Examine the local market, and appropriate modality for distribution.

### Key indicators

***Percentage of women and girls, and people with incontinence that express satisfaction with the consultation regarding and design of menstrual hygiene management systems (WASH infrastructure, and NFI kits).***

Consultation and action - 100% in the following:

- type of material (disposal or reusable material);
- reusable material – colour and type;
- disposal mechanism – both in community, and at schools, and other institutions and public places;
- laundry and drying facilities; and
- bathing facilities.

***Percentage of women and girls that access and use culturally appropriate menstrual hygiene materials.***

- See minimum supplies in What else do I need to know?

***Percentage of people with incontinence that access and use culturally appropriate incontinence and protection materials.***

- See minimum supplies in What else do I need to know?

### What else do I need to know?

#### ***Supplies***

For menstrual hygiene:

- Either absorbent cotton material (4 sqm/year) or disposable pads (12/month) or reusable sanitary pads (6 minimum) – if preferred by women and girls
- Underwear (6/year)
- Soap (250g/month) – in addition to the general soap distribution to all affected persons

For incontinence:

The supplies for incontinence will depend on the severity and type of incontinence. A suggested basic minimum is:

- Either absorbent soft cotton material (4 sqm/year) or disposable incontinence pads (establish through consultation) or reusable incontinence underwear (6 minimum) – if preferred
- Underwear (6/year)
- Soap (250g/month) – in addition to the general soap distribution to all affected persons
- Two washable leak proof mattress protectors

For both menstrual hygiene and incontinence:

- Women and girls who use reusable menstruation materials and for people using reusable incontinence materials also require:
  - a dedicated container with lid for soaking cloths and storing pads/cloths; and
  - rope and pegs.

### ***Incontinence***

May not be a term that everyone knows and is often a very taboo and hidden issue, even sometimes within the medical profession. Incontinence is a complex health and social issue that occurs when a person is unable to control the flow of their urine or faeces and needs to manage this on an intermittent or continual basis. The types and severity of incontinence vary but severe incontinence can lead to a high level of stigma, social isolation, stress, and inability to access services. Many people who suffer from incontinence will choose to keep it a secret. However, in a humanitarian context where they may have lost their usual coping mechanisms, management is likely to be difficult and causes significant stress to those people with this condition and their family or carers. A wide range of people can suffer with incontinence including:

- older people;
- people with physical disabilities including people injured in conflicts;
- people with mental health conditions;
- women who have given birth;
- girls who have given birth before their bodies are ready, increasing the risk of fistula
- people with chronic illnesses (such as asthma, diabetes, stroke, or cancer);
- girls and women who have faced GBV and in particular those who have been raped or have undergone FGM;
- people who have had operations (such as the removal of the prostate);
- women going through the menopause;
- children and teenagers traumatised by conflict who may start bed wetting; and
- other people who have malfunctioning urinary or faecal systems.

### ***Importance of addressing MHM and incontinence in crises***

MHM and incontinence are important in crises as it is critical for girls and women, and people with incontinence, to feel empowered to engage in survival and other daily activities and not hide away, or have limitations in their movements or access to services (such as health and education) due to menstruation or incontinence.

### ***Cross-sectoral responsibility***

MHM and incontinence are areas where there is cross-sectoral responsibility. It is important to discuss related issues across the WASH, Protection, Health, Education, and Logistics sectors and disability specialist organisations. Cross-sectoral coordination helps to ensure that responses are coherent and that the best use is being made of each sector's resource.

### ***Training and confidence building of staff***



Staff may lack confidence to discuss issues related to menstruation and incontinence. Build staff confidence and capacity with managing issues of this nature, ideally before a crisis, or soon after it has begun.

### ***Consultation***

Consult different aged females to determine their appropriate cultural norms and taboos related to MHM and menstrual hygiene materials (for example, disposable pads versus reusable cloth) and appropriate washing/disposal options. Consult with women and girls with disabilities and their caregivers, who may be isolated in their homes and need assistance with menstrual hygiene. These consultations should be segregated age-wise. For example, adolescent girls maybe not be comfortable discussing their needs in front of adult women. Consult in a private space where conversations will not be overheard outside the group. Consultations should always be conducted by female facilitators. Likewise, it is important to consult with people with incontinence and their caregivers on their needs.

### ***Taboos and norms***

There are a wide range of beliefs, norms, and taboos related to menstruation and MHM. Some of these are not problematic but can affect the appropriateness and likely success of MHM solutions for women and girls. Others can be problematic for the health and, dignity, and daily functioning of women and girls, e.g. the belief that a woman or girl should not wash their body during their menstrual period. It is important to understand these beliefs and taboos, so that support can be appropriate. This may not be possible during the immediate or acute phase of the crisis, but should be investigated as soon as possible. Likewise, there may also be taboos and beliefs around incontinence which need to be understood to ensure appropriate solutions.

### ***Understanding the purpose of the materials***

Make women and girls aware that sanitary pads/cloth have been included in the hygiene/dignity NFI kits, and ensure that information is provided about their purpose. Equally, ensure that men and boys in the family are aware of the purpose of menstrual hygiene materials in the kit so they do not discard them or use the materials for other purposes. The same applies for materials for incontinence.

### ***Different preferences for sanitary materials by nationality***

In contexts where the affected population is made up from a range of countries, make sure that you consider the range of national preferences. Sanitary materials considered appropriate by one group may not be appropriate for others.

### ***Supply for each woman and girl***

Ensure that adequate supplies of menstrual materials and NFIs are given to each woman and girl and are not just given as a standard number per family. For example, a family with only one woman of reproductive age will have different needs than a family with five women and girls of reproductive age. The same is true regarding materials for incontinence.

### ***Replacement of consumables***

Like with soap, consider how the response shall provide the materials over time. Consider the supply chain, the role of the private sector, and options for either in kind, voucher, or cash support.

### ***Other kits***

In some contexts, separate kits may be provided that are different, or in addition, to the standard WASH/hygiene kits (these are sometimes called ‘Dignity kits’). These kits are sometimes provided by the Protection sector. They may include items such as sanitary napkins/pads/cloth, underwear for women, a bucket with lid, as well as items such as a torch; and shaving foam, and razors for men.

### ***Schools, safe spaces, learning centres***

When planning support for WASH in schools and safe spaces, consider the school’s infrastructure (appropriate female-friendly toilets), and the training provided to teachers. Encourage the adoption of hygiene education on MHM as part of standard lessons. The WASH team should ensure that teachers have been trained to:

- support girls’ menstrual hygiene practices;
- have a supply of sanitary protection materials for girls who face a menstrual hygiene emergency while at school;
- have a discrete disposal mechanism for sanitation protection materials; and
- have well maintained and gender-segregated water, sanitation, and hygiene facilities that provide a private and hygienic environment in which girls and female teachers can manage their menstruation.

Similarly, in conflict situations, additional training may be needed for teachers regarding how to support children and youth who are facing incontinence in the classroom due to high level of trauma from the conflict.

### ***Information, education, and communication materials***

Design and pre-test IEC materials on MH with women and girls, and on incontinence with people suffering from incontinence, to ensure that the instructions are clear and simple. Materials should be appropriate for different ages, diversity, and literacies.

### ***Water***

See Water Supply Standard 3 for guidance to ensure that women and girls, and people with incontinence, have reliable access to adequate water either inside or close to their bathing and latrine facilities.

### ***Toilets, bathing areas, laundry washing areas, and hand-washing***

Standard 4, Excreta, provides guidance to ensure that women and girls and people with incontinence are provided with and have appropriate access to bathing areas, toilets, laundry washing areas, and hand-washing facilities during their use of sanitary and incontinence materials.

### ***Solid waste management***

See Standard 6, Solid Waste Management for guidance on how to facilitate appropriate disposal of pads - either into a container with a lid, or via a chute from the latrine unit to an incinerator. It is essential that there is a discrete and sustainable system for collecting, transferring, and disposal of the waste over time.

### ***Shelter***

Where possible, communicate with the shelter sector on ensuring that shelters offer adequate privacy for women and girls to manage their menstruation and for people with incontinence to manage their incontinence within the household or communal shelter (for example using privacy

screens in all types of shelter, or separate areas for women and girls to change in communal shelters).

### ***People on the move***

Offer opportunity for women and girls to select any MHM, and for people with incontinence to access incontinence-related items that they need from a range of options as they pass through supply points.

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### 3. Water supply

Water is essential for life, protection of health, and human dignity. In extreme situations, there may not be sufficient water available to meet basic needs. In these cases, supplying a survival level of safe drinking water is critically important. The priority is to provide access to an adequate quantity of water, even if it is of intermediate quality. This access may be necessary until minimum standards for both water quantity and quality are met.

Access to safe, consumable water is a basic human right. Everyone needs a safe, accessible, equitable, affordable, and durable supply of water for drinking, cooking, personal and religious use, and domestic hygiene. In many countries, taps, wells, and pipes exist but have fallen in disrepair due to conflict, a natural disaster, or have simply become neglected from the lack of functional systems to operate and maintain them. Unfortunately, in armed conflict, access to water can be strategic, with water access used as a weapon of war.

To understand current practices, cultural and social norms, preferences and how they evolve seasonally it is important to consult community members and other relevant stakeholders. Convenience, cost, and equitable access play a major part for communities to access water for their needs. For example, one may collect water from a pond because of the taste and proximity. Alternatively, one may collect water from a bottled water kiosk, given the taste, and lack of certainty of water delivered from a public water system.

Risk analysis of the safe water chain from the water source to the point of use is critical. The goal of the analysis is to ensure that households have safe and equitable access to drinking and domestic water (which is one of the barriers of the faecal-oral transmission of diarrhoeal diseases). An integrated approach to water supply, hygiene, excreta disposal, solid waste management, and drainage is important.

These two standards focus on access, water quantity, and water quality.

#### **Water supply. Standard 3.1: Access and water quantity**

**All people have equitable and affordable access to a sufficient quantity of safe water to fulfil their drinking, cooking, personal, religious, and domestic hygiene needs.**

**Key action 1:** Determine the most appropriate water sources.

- Understand the groundwater and surface water context to mitigate as much as possible the risk of harming the water sources.
- Be aware of the seasonal variations and the different coping mechanisms in accessing drinking water, domestic water, and water for livelihood inputs.
- Map the water market system that illustrates the following: different sources of water; the range of suppliers (market actors); the diversity of communities and households who access water; and the opportunities and bottlenecks.
- Analyse the roles of women and men, girls and boys in collecting, storing and treatment of water, and their roles in operation and maintenance.
- Consider how an intervention will affect the post-crisis payment structures (cash, credit, exchange of goods) used to procure water for drinking, domestic, and livelihood purposes.

**Key action 2:** Quantify the affected population’s requirement for water.

- Consider:
  - public health risks;
  - habits before the crisis, current coping mechanisms, and how the current living environment differs from before the crisis;
  - seasonal demand variations;
  - cultural and social habits and definitions of what constitutes a sufficient quantity of water;
  - excreta containment designs, including water for flushing, anal cleansing, and toilet cleaning;
  - at risk groups (specific vulnerabilities). Examples of these are people living with disabilities or mobility limitations, older people, people living with incontinence, or people living with HIV;
  - religious practices;
  - institutions, such as market areas, schools, nutritional feeding centres, child friendly spaces, health settings; and
  - household animals, livestock; and livelihoods.

See guidance on survival figures and quantifying water needs in Appendix 2.

**Key action 3:** Consult stakeholders about the siting, design and implementation of water distribution points.

- Include bathing facilities; latrines, laundry areas in the community; for institutions such as schools, health centres and clinics; child friendly spaces; marketplaces ; and nutrition feeding centres.
- Consultation should consider seasonality; access and use by age, gender, and ability; people with disabilities or mobility limitations; people living with HIV; people living with incontinence; and sexual or gender minorities.
- Locate accessible water points sufficiently close to households to enable the use of the minimum water requirement.

**Key action 4:** Define the most appropriate structures and systems for short and long-term management of the water systems and infrastructure.

- Establish clear and accountable roles and responsibilities; and with sources of finance to manage future operation and maintenance.

**Key action 5:** Ensure appropriate water point drainage.

- Include drainage from household and communal washing, bathing and cooking areas as well as water collection and distribution points, and hand washing facilities.
- Seek opportunities to reuse the water (e.g. for vegetable gardens, brick making, irrigation).

**Key indicators**

<p><b><i>Number of litres of water per person per day (l/p/d) accessible for drinking, domestic and personal hygiene.</i></b></p> <ul style="list-style-type: none"> <li>• 15 l/p/d</li> <li>• Quantity of water provided should be based on cultural and social norms, the context, phase of response and in coordination with National and/or Cluster members.</li> </ul>
<p><b><i>Percentage of affected households possess at least two clean narrow-necked and covered water containers for drinking water at all times.</i></b></p> <p><u>In camps, at household level:</u></p> <ul style="list-style-type: none"> <li>• 2 water containers per household (1 for collection and transport, and 1 for storage to maintain safe water chain practices).</li> </ul> <p><u>Out of camp, in urban areas:</u></p> <ul style="list-style-type: none"> <li>• Collection and storage in the household should be sufficient to guarantee uninterrupted supply, at ordinary consumption levels, between successive refills, including peak consumption.</li> </ul>
<p><b><i>Number of persons per usable water based facility/system at all times.</i></b></p> <ul style="list-style-type: none"> <li>• 250 persons per tap</li> <li>• 500 persons per hand pump</li> <li>• 400 persons per open hand well</li> <li>• 100 persons per laundry facility</li> <li>• 50 persons per bathing facility</li> </ul>
<p><b><i>Percentage of affected households spending less than 20% of their income on drinking and domestic water.</i></b></p> <ul style="list-style-type: none"> <li>• &lt; 20% since the crisis</li> </ul>
<p><b><i>Percentage of households that are aware or informed of where and when they will next get their water.</i></b></p> <ul style="list-style-type: none"> <li>• People know when and where water shall be delivered at all times.</li> </ul>
<p><b><i>Percentage of households who travel less than 500m to a water distribution point.</i></b></p> <ul style="list-style-type: none"> <li>• &lt; 500 m at all times</li> </ul>
<p><b><i>Percentage of people who spend less than 30 minutes waiting for water.</i></b></p> <ul style="list-style-type: none"> <li>• &lt; 30 minutes at all times</li> </ul>
<p><b><i>Percentage of communal water distribution points that use appropriate infrastructure and equipment for the correct management of greywater.</i></b></p> <ul style="list-style-type: none"> <li>• Water points free of standing water at all times</li> </ul>
<p><b><i>Percentage of affected population satisfied with the siting, design, and implementation of water facilities.</i></b></p>

<ul style="list-style-type: none"> <li>• Community consultation and engagement before siting and design, especially with older people, people with disabilities, women and girls.</li> <li>• Inclusion and feedback during implementation.</li> </ul>
<p><b><i>Percentage of water systems/facilities with functional management systems in place.</i></b></p> <ul style="list-style-type: none"> <li>• Compliant operation and maintenance roles, responsibilities, and action.</li> <li>• Systems with minimum operation and maintenance requirements and appropriate financial management systems.</li> </ul>
<p><b>What else do I need to know?</b></p> <p><b><i>Water source selection</i></b></p> <p>Consider availability, safety, proximity, and sustainability of a sufficient quantity of water. Consider the existing users, the need for treatment of the water, whether treatment is bulk or household level, and the feasibility of treatment. Consider the existence of any social, political, or legal factors affecting the source. Especially during conflicts, the control of water sources might be controversial. Water can be used as a weapon in war. In emergencies, a combination of different approaches and sources is often required in the initial phase. Surface water sources, despite requiring more treatment, may be the most quickly exploitable in the early stages of a post-crisis situation. All sources need to be monitored regularly to avoid exploitation. Water sources such as springs and rivers may be ephemeral. The source or spring can change with aftershocks in earthquake prone areas. Turbidity can change from season to season, and salinity can increase by draining seawater into the fresh aquifer, and over abstraction. Quantity of water provided should be based on local norms, the context such as drought, urban, or camp; phase of response; and in coordination with National or Cluster members. See guidance on survival figures, and quantifying water needs in Appendix 2.</p> <p><b><i>Needs</i></b></p> <p>The quantity of water needed for drinking, hygiene and domestic use is context-based, and depends upon the phase of a response. Needs also vary according to severity of public health risks, the climate, the sanitation facilities available, people's habits, their religious and cultural practices, the food they cook, the clothes they wear, children's faeces, menstrual and incontinence management practices, income, and lifestyle.</p> <ul style="list-style-type: none"> <li>• 15 l/p/d is based on field expert opinion and good practice for many years, but is by no means appropriate in every context or phased of a response. Be mindful of this at all times.</li> <li>• For instance, in the acute phase of a drought, 7.5 l/p/d may be appropriate given the natural environment, and the local norms, while in an urban middle-income context, 50 l/p/d may be an acceptable figure given the context, and local norms. One should review the consequences of providing different quantities of water in different contexts and phases of response - by understanding their coping mechanisms, their actual access and use, and associated with morbidity and mortality.</li> <li>• Ensure you agree the common contextualised indicator with others via technical working groups, coordination efforts within the WASH sector, Cluster, and or National platforms.</li> <li>• During the Syria crisis, for example, the WASH assessment concluded that households complemented their declining water network supply (due to both reliability and quality issues) by purchasing water from water vendors to maintain their</li> </ul>



consumption levels at 50–70 l/p/d, even though this represented a considerable cost (15% of their income on average, and up to 50%).

- For guidance on determining water needs, and water quantities for human, livestock, and institutions and other uses see Appendix 2. For emergency livestock water needs, refer to Livestock Emergency Guidelines and Standards.

#### **Minimum basic survival water needs**

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

#### **Measurement**

Household surveys, observation, and community discussion groups are more effective methods of collecting data on water use and consumption than the measurement of water pumped into the pipeline network or by measuring the operation of hand pumps. Households might get water from different sources. Household water usage surveys will indicate where they collected water, how much, and for which purpose. Triangulate water system reports with household reports to gain a comprehensive understanding.

#### **Maximum numbers of people per water source**

The number of people per source depends on the yield and availability of water at each source. The approximate guidelines are:

250 people per tap;	Based on a flow rate of 7.5 litres/min
500 people per hand pump; and	Based on a flow rate of 17 litres/min
400 people per single-user open well.	Based on a flow rate of 12.5 litres/min

These guidelines assume that the water point is accessible for approximately eight hours a day and that the water supply is constant during that time. These targets must be used with caution, as reaching them does not necessarily guarantee a minimum quantity of water or equitable access.

#### **Quantity and coverage**

In crisis, and until meeting minimum standards for both water quantity and quality, provide equitable access to an adequate quantity of water even if it is of intermediate quality. Sufficient water availability (irrespective of quality) has a strong impact on reducing and preventing diarrhoeal disease. Pay attention to meeting the need for extra water for people with specific health conditions, such as incontinence; people living with HIV, and to meeting the water requirements for livestock and crops in drought situations. To avoid generating hostility, ensure that water and sanitation responses address the needs of both host and affected populations equitably.

Ensure verification of equity of water distributed at the household level is carried out through water user surveys. This shall provide a detailed overview of coverage, equity and overall distribution of water. Do not simply take the quantity of water delivered and divide by the population served.

#### **Round trip and queuing time**

Excessive round trip and queuing times are indicators of insufficient water availability and coverage. They indicate an inadequate number of water points or inadequate yields at water sources. The potentially negative results of excessive queuing times include a reduction of per capita water consumption; increased consumption from unprotected surface sources; and reduced time for other essential survival tasks such as education or income generating activities for those who collect water (mainly women and girls). Consider and reduce the impact on older people with disabilities. Queuing time also affects the risk of violence occurring at the tap stand. Any tap operator should be monitored and prevented from exploiting their position by charging more for water than the agreed price, or fast-tracking girls and women in the queue by exchanging sex for water. This requires a joint effort, and coordination between the WASH and protection teams. Refer to Protection Principles.

#### ***Informing communities***

Work with the affected population so that they know when to expect the delivery of water, the point of delivery, their entitlements to equitable distribution, and where to report any feedback. Provide this information through multiple formats.

#### ***Reliability of supply***

Consider the reliability of water supply, and the consequences for users. Understand how communities deal with supply variability, either through a greater number or size of water storage tanks, or a mixture of publicly and privately sourced supplies of water.

#### ***Access and equity***

Even if a sufficient quantity of water is available to meet minimum needs, additional measures are needed to ensure equitable access for all groups. Water users may include both human and livestock. Locate water points that are accessible to all, regardless of age, gender, disability, and diversity. Develop plans and policies in consultation with users in situations where water is rationed or pumped at specific times. Lack of water in the household or long queuing times can also increase domestic violence in the household or friction between neighbours.

#### ***Access and ergonomics***

Be sure that the water points such as hand pumps, springs, and tap stands are at a height that allows use by people of different ages and abilities (adults, children, older people and persons with disabilities). Taps should be useable with water containers of various sizes and shapes. Be mindful of the effects of the surface and structures wastewater. See Drainage standard.

#### ***Water resources***

In protracted crises evaluate the *water balance* when doing water resource planning. This evaluation must examine the seasonal-historical recharge (supply) versus demand. Systematic groundwater monitoring should be carried out for all motorised or solar boreholes to evaluate and ensure the sustainability of aquifers.

#### ***Appropriate water containers***

Determining the appropriate water container(s) is critically important to ensure safe water chain practices. As a minimum WASH practitioners should examine, which containers are routinely used by the community (demand), examine their availability in the local market (supply chain), the gender and age of the water carriers. Water collection and storage containers should have narrow necks, and be covered (top/lid) as a minimum. Where HWTSS is used different quantities and size may be needed. sized, and number of shall be needed e.g. where you have a coagulant, flocculation and disinfection process you shall need 2 buckets with a straining cloth, and a stirrer.

### ***Cash and market-based programming***

Understanding the market is key to determining how households and communities access services, and goods related to water before and after the crisis. A market assessment can clarify the best implementation mode, such as in-kind, cash, vouchers, or market strengthening. See Annex X: Delivering through markets for further guidance on market analysis and responding through the markets.

### ***Payment***

Human Rights to Water & Sanitation communicate that water costs should be no more than 3-5% of the households' annual income. During crises this percentage can reach 20% or more. It is important to conduct an economic and willingness-to-pay analysis to define affordability for households. Such studies may also promote cost efficiencies for operation and maintenance, the prevention of prevent negative coping mechanisms, and support the revision of technical solutions and assistance to reduce risk.

### ***Power for motorised water systems***

Consider solar powered pumps when locating solutions between 30°N and 30°S. Due to technical and cost advances, it is increasingly evident that solar pumping is financially, operationally and environmentally superior to other off-grid pumping technologies. Solar powered pumping is far superior to pumping powered by widely used diesel generators. Solar powered water schemes are most appropriate when working in off-grid areas, long-term camp contexts, or places where fuel is too costly or problematic. When compared to diesel options, solar technology has average break-even periods of one to four years, life cycle cost reductions of 40% to 90% and lifespans of up to 25 years. Ensuring appropriate specifications, use of quality products, operation of cost recovery mechanisms, and implementing service plans will contribute to the sustainability of solar pumping systems.

### ***Religious practices***

Having an opportunity to practice religious traditions, including prayer, has significant benefits to preserve psychosocial well being of the affected people, and lack of such provisions may exacerbate stress for individuals who feel unable to practice their religious traditions in full. Defining water needs to honour religious practices is critically important.

### ***People on the move, and use of bottled water***

Do not consider bottled water an appropriate supply solution due to the exceptional environmental impact of bottles and generation of solid waste as well as to issues of transport, cost, and quality. However, exceptions can be made for the short term – for example, for people on the move. But only consider it as a last resort, short term, exceptional solution. In any case, include arrangement for the appropriate management of the generation of considerable solid waste when planning.

### ***Maintenance and sustainability of water systems***

Understanding the prior and current governance structures, the state of the socio-economic equity, and the cost recovery mechanisms are key to the optimal development of water management systems. Up-front capital investment in water supply systems that have longer-term cost savings or economies of scale should be considered. Alternatives are solar pumping or a piped water system versus water trucking, especially in protracted crises in urban areas and camps.

It is important that the affected people are provided with all necessary means to operate, maintain, and sustain water systems. Traditional WASH committees and partnerships with the private or public sector can offer creative opportunities to set up management models.

***Schools, child friendly spaces, health centres, and nutritional feeding centres***

With the relevant authorities and coordination bodies, designate the adoption and implementation of accessible and appropriate water supply systems which reflect policy and standards in place, at schools, temporary learning spaces, child friendly spaces, women and girls safe spaces, health centres and nutritional feeding centres. Management of these systems should be done through existing mechanisms, not through parallel systems set up by humanitarian organisations. See Appendix 11: Inter Cluster Roles and Responsibilities.

***Laundry, washing and bathing facilities***

People require space where they can bathe in privacy and with dignity. If this is not possible at the household level then separate communal facilities for men and women shall be needed. Clothes, cooking and eating utensils need washing given their essential remit in maintaining personal hygiene and well being at the household level. Where laundry soap is not available, use commonly used alternatives such as ash, clean sand or various plants suitable for washing and/or scrubbing can be provided.

The number, location, design, safety, appropriateness and convenience of facilities should be decided in consultation with the users, particularly women, adolescent girls and people with disabilities. The location of facilities in central, communal, accessible and well-lit areas with good visibility of the surrounding area can contribute to ensuring safety, well-being and dignity of users.

***Drainage from water points, laundry areas, bathing facilities and handwashing stations***

Wastewater from water distribution and usage points can be a health hazard. It provides breeding grounds for problem vectors and potentially can contaminate drinking water sources. It is the responsibility of the actors involved with constructing water distribution and usage points to ensure that wastewater does not pose a problem. This can be either through appropriately designed onsite drainage systems (assuming a percolation test has been carried out), and/or integrated into an overall drainage plan prepared by and in coordination with site planners, the shelter sector and or municipal authorities. The plan should ensure that health and other problems are mitigated.

The design and implementation of WASH systems and infrastructure should include drainage from the onset. For instance, ensure the pressure rating at tap stands, the size of the water point and/or laundry apron, and the height from the tap to the bottom of the water containers is appropriately sized.

***Civil -military***

If requested by the community, the military can support clean water supply efforts as part of its support to humanitarian operations. Coordinate military support to humanitarian activities with the WASH cluster via the OCHA Office and the Civil-Military Coordination (UN-CMCoord) officers where they are present.

## Water supply Standard 3.2: Water quality

**Water is palatable and of sufficient quality for drinking, cooking and for personal and domestic hygiene, without causing a risk to health.**

**Key action 1:** Evaluate the risks associated with the water available.

- Consider customs and preferences.
- Include the risk of the *water journey* from collection at the *source* to *point of use* (safe water chain practices).
- Undertake community mapping to identify public health risks, and involve the community in finding ways to reduce these risks.
- Talk to community members, conduct transect walks, conduct sanitary surveys, and refer to WHO's plan methodology for water safety.

**Key action 2:** Treat water with a disinfectant (in conjunction with key action 3 below), based on your risk assessment.

**Key action 3:** Determine the most appropriate method for ensuring safe drinking water at point of use based on the water source, distribution methods and risks at the point of use.

- Options include:
  - Bulk water treatment and distribution, with safe collection and storage at the household, together with community engagement and hygiene promotion; OR
  - Household water treatment and safe storage (HWTSS) together with community engagement, and hygiene promotion.

**Key action 4:** Carry out all the necessary steps to minimise post-delivery water contamination at point of use.

- These include:
  - community engagement, hygiene promotion, behaviour change and adaptation;
  - promotion of protection of water sources;
  - ensuring that households are equipped with safe water containers for collection and storage of drinking water, and with the means to safely draw water from a storage container for drinking or other use. This requires a clean device such as a clean ladle, or tap.
  - routine observations at the household level to measure the safe water chain practices.

### Key indicators

***Percentage of households who store water safely in clean and covered containers at all times.***

- Safe storage containers:
  1. Covered (lip / tap)
  2. Clean
  3. Tap

<p><i>See Water supply. Standard 1: Access and quantity on the number and type of water containers for collection and storage</i></p>
<p><b>Percentage of households with free residual chlorine <math>\geq 0.2</math> mg/l in drinking water at point of use.</b></p> <ul style="list-style-type: none"> <li>• <math>\geq 0.2</math> mg/l free residual chlorine at point of use at all times (100%)</li> <li>• Reflective of national standards</li> <li>• Tests on randomised, significant sample with positive values</li> </ul>
<p><b>Percentage of households with <math>&lt; 10</math> coliform forming units / 100 ml <i>E. coli</i></b></p> <ul style="list-style-type: none"> <li>• <math>&lt; 10</math> CFU / 100 ml <i>E. coli</i> at all times (100%)</li> <li>• Reflective of national standards</li> <li>• Tests of randomised, significant sample with positive values</li> </ul>
<p><b>What else do I need to know?</b></p> <p><b>Promotion of protected sources</b>          Providing protected sources or treated water will have little impact unless people understand the health benefits of this water and use it. People may prefer to use unprotected sources, such as rivers, lakes and unprotected wells, for reasons of taste, proximity, and social convenience. In such cases, engineers, technicians, hygiene promoters, and community mobilisers need to understand the rationale for the preferences, and develop promotional messages and discussions.</p> <p><b>Safe water chain risks</b>          A sanitary survey is an assessment of conditions and practices that may constitute a public health risk. It identifies possible sources of contamination to water at the source, during transport, and in the home. It considers defecation practices, drainage and solid waste management practices as possible sources of contamination.</p> <p><b>Quantity versus quality</b>          In a crisis where you are unable to meet minimum standards for both water quantity and quality, prioritise quantity over quality, even if the water is of intermediate quality. This water can be used to prevent dehydration, decrease stress in anticipation of finding water, and strongly impacts upon the prevention of diarrhoeal diseases.</p> <p><b>WASH-related diseases</b>          Feachem's environmental classification of water-related diseases includes water borne, water-washed, water based, and water-related insect vectors. Water borne infections are categorised by type of pathogen, and include (but are not limited to):</p> <ul style="list-style-type: none"> <li>• protozoan: such as <i>Cryptosporidiosis</i>, <i>giardiasis</i>;</li> <li>• bacterial: such as <i>cholera</i>, <i>E. coli infection</i>, <i>bacterial dysentery</i>, <i>campylobacteriosis</i>; and</li> <li>• viral: <i>Hepatitis E</i>, <i>rotavirus</i>, <i>Ebola</i>, <i>polio virus</i>.</li> </ul> <p>The faecal-oral transmission route of diarrhoeal diseases communicate the primary and secondary barriers of diarrhoeal diseases. The barriers include containment of excreta, covering and preparation of food, hand washing at key times, and safe collection and storage of water. See diagram in Annex.</p>

### ***Appropriate time for testing***

In the initial phases of a crisis, the focus should be on minimising risks, and not on water quality testing. A bacteriological analysis is not required before presuming that the water from a surface water source is likely contaminated. Focus should be on the point of use of drinking water at the household through the measurement of levels of free residual chlorine (where chlorination is relevant). When commissioning a new water source the water should be tested for physio and chemical parameters. This should be examined before and after local seasonal fluctuations in a calendar year.

### ***Microbiological water quality***

Faecal coliform bacteria (>99 per cent of which are *E. coli*) are an indicator of the level of human and animal waste contamination in water and the possibility of the presence of other harmful pathogens. If any faecal coliforms are present, treat the water. Even if *E. coli* is not found, water is prone to recontamination without a residual disinfectant.

### ***Post-delivery contamination***

Water that is safe at the point of delivery can nevertheless present a significant public health risk due to recontamination. Steps that can be taken to minimise such risks include safe collection and storage practices, coupled with the distribution of clean and appropriate collection and storage water containers (see Hygiene standard). Large water storage tanks erected in household compounds or on house roofs in camps or urban areas also present risk of potential contamination. Clean storage tanks at regular intervals, and train the members of communities how to do so. Water should be routinely sampled at the point of use to monitor the extent of the post delivery contamination. See Appendix for water quality testing, and monitoring protocols for emergency water supply at source, distribution, and point of use.

### ***Palatability***

Taste is not in itself a direct health problem. But if the safe drinking water does not taste good (either due to saline waters, hydrogen sulphide, chlorine levels which they are not used to), users may drink from unsafe better tasting source, and unnecessarily spend money on non-chlorinated water and put their health at risk. To avoid this, community engagement and hygiene promotion activities are needed to ensure that only safe drinking water supplies are used.

### ***Water disinfection***

Conditions in the settlement, such as population density, excreta disposal arrangements, hygiene practices, and the prevalence of diarrhoeal disease are determinants of public health risks. In the case of a threat or of the existence of a diarrhoea epidemic, treat all drinking water supplies, either before distribution or in the home via HWTSS. Be aware that chlorine dissipation varies depending on the temperature range, so factor this into dosing and contact times.

To properly disinfect water, turbidity must be below 5 NTU. High turbidity in source waters can harbour microbial pathogens, which can attach to particles and impair disinfection. Consider double-dose chlorination for cases of high turbidity where there is no alternative water source. Only attempt this for short periods of time and after training users to filter, settle, and decant the water to reduce turbidity before treatment. See Appendix 5: Household water treatment and safe storage decision tree.

### ***Household-level water treatment and safe storage***

Use household level water treatment and safe storage (HWTSS, formerly referred to as point of use water treatment) when use of a centrally operated water treatment system is not possible. The different types of HWTSS options that are shown to reduce diarrhoea and improve the



microbiological quality of stored household water include the following: boiling; chlorination; solar disinfection; ceramic filtration; slow sand filtration; membrane filtration; and flocculation and disinfection. The most appropriate HWTSS option for any given context depends upon the existing water and sanitation conditions, water quality, cultural acceptability, the implementation feasibility, and the sustainability of any of the options. Successful HWTSS includes the provision of adequate materials and products and appropriate training for promoters, risk prone or affected populations. Avoid introducing an untested water treatment option in crises and in epidemic outbreak situations. Effective use of HWTSS options requires regular follow-up, support, and monitoring and is a prerequisite to adoption of HWTSS as an alternative water treatment approach.

Distribute HWTSS tablets in person. The facilitator should be accompanied by a chlorine pool tester with the testing skills who can recommend the correct dosing for the local circumstances and thus prevent overdosing or under-dosing.

***Water quality for institutions***

All water supplies for hospitals, health centres, feeding centres, cholera and Ebola treatment centres, and Oral Rehydration Treatment Centres (ORTCs) should be treated with chlorine or another residual disinfectant. A minimum of three days' supply should be available at the centre to ensure an uninterrupted supply at normal usage levels. (See Appendix 2: Minimum water quantities for institutions and other uses and Appendix 7: Minimum hygiene, sanitation and isolation activities for cholera treatment centres).

***Chemical and radiological contamination***

Where hydrogeological records or knowledge of industrial or military action suggest that water supplies may carry chemical or radiological public health risks, the risks should be rapidly assessed by carrying out a chemical analysis. A decision that balances short-term public health risks and benefits should be made. Furthermore, a decision to use possibly contaminated water for longer-term supplies should be following a more thorough assessment and analysis of the health implications, and validation with the local authorities.



## 4. Excreta Management

For this chapter, human excreta are defined as waste matter discharged from the body, especially faeces and urine, but also including menstrual waste.

An environment (including surface and groundwater sources) free of human excreta is essential for people's dignity, safety, health, and well-being. This environment includes living areas, food production areas, learning spaces, health centres, communal WASH facilities, public centres, and the area surrounding drinking water sources. Ensuring that people have access to and can use appropriate, safe, clean, and reliable toilets for defecation is essential for people's dignity, safety, health, and well-being.

Safe excreta containment, collection, transport, treatment, and disposal is a major WASH priority. In crisis situations, it should be addressed with as much priority as the provision of a safe water supply. Defecation with dignity is a highly personal matter. Appropriateness is determined by cultural practices, people's daily customs and habits, people's perceptions of appropriate behaviour by others, and whether individuals have used sanitation facilities before. Uncontrolled human defecation constitutes a high risk to health, particularly where population density is high, where people are displaced, and in wet or humid environments.

Containment of human excreta away from people creates the first barrier to excreta-related disease (see the F-Diagram in the introductory section of this WASH chapter). Containment is the first step in reducing direct and indirect routes of disease transmission. However, excreta containment should be considered as part of the whole excreta management chain. It should be integrated with collection, transport, treatment, and disposal. Safe disposal of human excreta is also important to minimise the impact to the environment, water sources, the flora and fauna and to ecosystems. Evidence of human faeces in the living, learning and working environment can be symptomatic of protection issues. People may not feel safe using facilities, especially in densely populated areas.

**What is a “toilet”?** Different words are used in the WASH sector. For this Handbook, the word “toilet” means any facility or device that immediately and initially contains excreta, and creates the first barrier on the F-diagram between people and the waste. This could be: a bucket; a potty; a pit toilet; a VIP; a plastic bag; a commode chair; or a pour-flush toilet. The word “toilet” is used in place of the word “latrine”. Also see “What else do I need to know?” in Standard 1.

These excreta management standards cover the whole excreta chain, from initial containment of excreta to ultimate treatment.

### **Excreta management Standard 4.1: Access to and use of toilets**

**All affected people always have adequate, appropriate and acceptable toilets, sufficiently close to their living spaces to allow rapid safe and secure access and use.**

**Key action 1:** Determine the most appropriate technical excreta management options.

- Understand the local topography, ground conditions and groundwater and surface water context (including seasonal variations) to mitigate as much as possible the risk of harming the water sources, and to determine technical option viability.
- Consider how an intervention will affect post-crisis behaviours and choices, especially in relation to subsidised toilets. Understand the sanitation policy environment, especially as it related to subsidised toilets.
- Map the potential market system for sanitation.
- Analyse the roles of women and men, girls and boys in operation and maintenance, and ensure technical options do not exacerbate protection or other risks.
- Identify specific social, cultural or religious factors that will help to define appropriate and accessible toilets, both for the short term and for more durable solutions.
- Apply existing national sanitation standards during planning for the siting, design, number and appropriateness of toilets.
- Design and construct toilets to minimise safety threats, especially for women, children, older people or people with disabilities.
- Segregate all communal or shared toilets as appropriate by gender and age, considering cultural norms and the potential for violence, harassment or stigmatisation.
- Ensure that toilets used by women and girls have facilities to let them manage menstrual hygiene, including a menstrual waste disposal option.
- Facilities at schools, temporary learning spaces, child-friendly spaces and women's and girls' safe spaces need to be planned, designed and constructed with those specific users in mind.

**Key action 2:** Quantify the affected population's excreta management requirements.

- Consider:
  - public health risks;
  - habits before the crisis, current habits, and how the current living environment differs from before the crisis;
  - cultural and social habits and definitions of what constitutes an appropriate, adequate and accessible toilet;
  - water collection and storage methodologies (for pour flush and / or anal cleansing);
  - at risk groups (specific vulnerabilities). Examples of these are people with disabilities or mobility limitations, older people, people with incontinence, or people with HIV;
  - religious practices;
  - institutions, such as market areas, schools, nutritional feeding centres, child friendly spaces, health settings; and
  - excreta from household animals, or livestock.

**Key action 3:** Consult all stakeholders about the siting, design and implementation of any shared or communal toilets.

- Consult stakeholders from schools, health centres and clinics; child friendly spaces; marketplaces; and nutrition feeding centres.
- Consultation should consider access and use by age, gender, and ability; people with disabilities or mobility limitations; people with HIV; people with incontinence; and sexual or gender minorities.

<ul style="list-style-type: none"> <li>• Locate any communal toilets sufficiently close to households to enable safe access, and sufficiently distant so as not to stigmatise particular households by proximity to toilets.</li> </ul>
<b>Key action 5:</b> Design and construct all excreta containment facilities based on a risk assessment of potential contamination of any nearby surface or groundwater source.
<b>Key action 6:</b> Provide appropriate disposal facilities inside toilets for disposal of menstrual hygiene materials.
<b>Key action 7: Ensure that the water supply needs of the technical options can be feasibly met.</b> <ul style="list-style-type: none"> <li>• Provide an adequate supply of water at or near the toilet for handwashing with soap.</li> <li>• Provide an adequate supply of water or appropriate material for anal cleansing.</li> <li>• Ensure an adequate supply of water for toilets with flush or hygienic seal mechanisms.</li> </ul>
<b>Key indicators</b>
<b><i>Percentage of appropriate, accessible, and safe toilets that are available in public spaces</i></b> <ul style="list-style-type: none"> <li>• 100%</li> </ul>
<b><i>Percentage of people who report toilets are appropriately designed, built, and located to meet local requirements.</i></b> <ul style="list-style-type: none"> <li>• The minimum requirement for this indicator will depend very much on context and phasing.</li> <li>• WASH actors use this indicator to analyse those who are reporting that toilets are NOT appropriately designed, built or located, find out who they are and how to improve the situation.</li> </ul>
<b><i>Percentage of affected people who report they are satisfied with their access to and use of toilets.</i></b>
<b><i>Percentage of women and girls who report that they are satisfied with the menstrual hygiene opportunities and disposal options at toilets they regularly use. These toilets are in household, learning, or work environments.</i></b> <ul style="list-style-type: none"> <li>• 100% of women and girls</li> </ul>
<b>What else do I need to know?</b> <p><b><i>What is adequate, appropriate, and acceptable?</i></b></p> <p>A successful toilet creates a barrier between people and their excreta. And a successful excreta management programme depends on an understanding of people's varied needs and their participation. It is not possible to make all toilets acceptable to all groups all the time. However, general guidance on acceptability is that adequate, appropriate and acceptable toilets have these qualities:</p> <ul style="list-style-type: none"> <li>• Safe to use for all sections of the population, including children, older people, pregnant women, and persons with disabilities.</li> <li>• Sited to minimise security threats to users throughout the day and the night. This applies especially to women and girls and people with other specific protection concerns such as people with albinism, and sexual and gender minorities.</li> </ul>

- Close enough to facilitate easy and quick access.
- Provide a degree of privacy in line with the norms of the users.
- Sufficiently easy to use and keep clean.
- Do not present a hazard to the environment.
- Have adequate space for different users.
- Have inside locks.
- Are provided with easy access to water for hand-washing anal cleansing and flushing.
- Allow for the dignified disposal and cleaning and drying of women's menstrual hygiene materials and child and adult incontinence materials
- Minimises fly and mosquito breeding.
- Minimises smell.

The type of sanitation facility adopted depends on the following: phase of the intervention; the preferences and cultural habits of the intended users; any existing infrastructure; the availability of water for flushing and water seals; the soil formation; and the availability of construction materials.

Generally, clean toilets are used more frequently. Make efforts to provide people with chronic illnesses, such as HIV, with easy access to a toilet. They frequently suffer from chronic diarrhoea and reduced mobility.

### ***Phasing***

Based on context, a phased or staged approach to excreta management is generally most effective, and should be the basis for a management plan for excreta disposal. Immediately after a crisis, indiscriminate open defecation must be controlled as a matter of urgent priority, and agencies should consider demarcating and cordoning off defecation areas, and siting and building communal toilets, accompanied by a concerted hygiene campaign. In particular, defecation should be prevented near all water sources (whether they are used for drinking or not), water storage and treatment facilities, uphill or upwind of camps and settlements including host communities, along public roads, nearby communal facilities especially health and nutrition facilities, and nearby food storage and preparation areas.

Where the affected population has not traditionally used toilets, it will be necessary to conduct a concerted hygiene promotion campaign. The campaign should encourage safe excreta disposal to create a demand for more toilets.

In urban crises, where there could be damage to existing sewerage systems, assess the extent of damage. Consider installing portable toilets or use septic or containment tanks that can be regularly de-sludged.

### ***Accessibility***

Depending on the choice of technology, access by people with disabilities or who otherwise have specific needs can be compromised by that choice. Care needs to be taken to ensure that technology choice doesn't limit the right of all people to safe access to sanitation, including those with disabilities.

Modality choices should be expanded to suit those needs, for example prioritised household toilets, mobile household toilets, or improving the physical access and space of a number of communal or shared toilets. Special toilets or additions to existing toilets may need to be constructed, adapted, or bought for children, older people, and persons with disabilities or

incontinence. These special toilets include toilets with seats or handrails, bed pans, potties or commode chairs.

As a rule of thumb, single access, gender-neutral toilets with ramps or level entries, with enhanced accessibility inside the superstructure, should also be made available at a minimum ratio of 1 to 500. Ramps benefit people with disabilities and mobility limitations, people with small children, older people, and other people who may appreciate the additional space. Special care needs to be taken when placing these units to limit stigmatization. Community engagement is important in determining how this is applied. See references for further information.

### ***Safe and secure facilities***

Inappropriate siting of toilets may make women and girls more vulnerable to attack, especially during the night. Ensure that all at risk groups, including women and girls, boys, older people and others with specific protection concerns, feel and are safe when using the toilets provided. Lighting of communal toilets or providing at risk groups with individual lighting options such as torches should be considered. Seek the input of the community, especially those most at risk, regarding ways of enhancing their safety. Note that it is not sufficient to consult only with women and children about safe and dignified WASH facilities, as in many contexts male heads of households exert control over what women and children are allowed to do. It is therefore necessary to consider social hierarchies and power dynamics, and actively engage with decision-makers to reinforce the right of women and children to access toilets and showers.

While lighting at communal facilities can improve access for women and girls, it can also have unintended consequences, for example by attracting people to that location to use the lighting for other purposes. Community engagement in how lighting can be used to improve access is critical to avoid negative unintended consequences.

### ***Household, shared or communal?***

Based on considerations of user safety, security, convenience and dignity, as well as the demonstrated links between ownership and maintenance, household toilets are considered the ideal. In some contexts, shared facilities between a small number of generally closely related shelters may also be the norm and should be considered if appropriate.

During the first phases of a sudden onset emergency response with people moving to new settlements, it may not be feasible or even possible to ensure this choice. Communal or shared toilets should be considered as the immediate solution. For communal and shared toilets, a short term maximum ratio of 50 people per toilet and a medium to long term ratio of 20 people per toilet are recommended, keeping in mind that household facilities are the ideal. It is possible to plan, design and construct such toilets with the aim in mind of ensuring household toilets at some point in the future. For example, sanitation corridors in settlements provides the space to initially build communal facilities close enough to shelters, and then over time household facilities can be constructed as budgets (household, government or agency) allow. The sanitation corridors then ensure access to such toilets for de-sludging or maintenance. Sanitation corridors also allow for efficient site decommissioning.

Communal toilets will also be necessary in some public or communal spaces, such as health facilities, market areas, feeding centres, learning environments and reception or administrative areas. Appendix X provides the minimum numbers of toilets at public spaces and institutions in emergency situations.

### ***Water and anal cleansing material***

Many different materials are used for anal cleansing after defecation. Ensure enough water is available for toilets with water flush or hygienic seal mechanisms. For a pit toilet, it may be necessary to provide toilet paper or other material for anal cleansing. Consult users regarding the most culturally appropriate cleansing materials and their safe disposal, and consider how the supply will be sustained.

### ***Hand washing***

Users should have the means to wash their hands with soap or an alternative such as ash after using toilets, after cleaning the bottom of a child who has been defecating, and before eating and preparing food. There should be a reliable and available source of water near the toilet for this purpose.

### ***Menstrual hygiene management***

Women and girls of menstruating age, including schoolgirls, should have access to suitable materials for the absorption and disposal of menstrual blood. Consult women and girls regarding cultural appropriateness. Toilets should include provision for appropriate disposal of menstrual material or private washing facilities. Disposal of menstrual materials into the toilet may result in frequent blockages of sewerage pipes, or challenges in desludging pits or septic tanks.

### ***Community approaches to sanitation***

In some contexts where non-subsidy approaches (such as Community Led Total Sanitation) has been used as a national approach before a crisis occurs, practitioners and longer-term development actors must discuss the impacts of subsidies, and agree on measures to minimise the impact of potentially subsidising toilet construction as an emergency response. The discussion should also address how the approaches will transition back to the longer term developmental approach after the immediate crisis has stabilised.

## **Excreta management Standard 4.2: Containment of excreta**

### **All excreta is safely contained on-site**

**Key action 1:** Implement appropriate excreta containment measures.

- In new constructed camps or settlements, immediate containment measures might include emergency facilities such as demarcated and cordoned off defecation areas. While household toilets are generally ideal, initially toilets may have to be communal (each toilet is open to all users) or shared (by a small number of households).
- Provide toilets and other sanitation facilities for those with mobility difficulties.

**Key action 2:** Immediately decontaminate any faecally-contaminated living, learning and working spaces or surface water sources.

**Key action 3:** Ensure that children's and babies' faeces are contained and disposed.

**Key action 4:** Design and size any pit, vault or septic tank to ensure all excreta can be safely contained, taking into account de-sludging options.

**Key action 5:** Ensure that all toilets are designed and constructed to minimise access to the excreta by problem vectors .

#### Key indicators

***Percentage of excreta containment facilities that are sited appropriately and are an adequate distance from any surface or groundwater source.***

- 100%

***Percentage of surface or groundwater sources contaminated by effluent from excreta containment facilities.***

- 0%

***Percentage of children's faeces that are hygienically contained and disposed.***

- 100%

#### What else do I need to know?

##### ***Distance to water sources***

The direct link between containment infrastructure (trench latrines, pits, vaults, septic tanks, soakaway pits or trenches) and the potential for water source contamination by faecal material requires mitigating action to this from happening. Assessing this risk is very site specific and depends on, amongst other things, topography including local drainage lines and surface waterways, soil types and saturation conditions, groundwater levels, geological conditions and any other subterranean infrastructure.

Although faecal contamination is not an immediate concern if the water source is not consumed, potential environmental damage needs to be taken into account.

For surface water sources, maintain at least a 30-metre distance between containment and the source. Sources, such as wells, should also be protected to mitigate the potential for contamination via the ground's surface.

For groundwater sources, a thorough analysis of the contamination risk should include soil permeability tests to determine the speed at which the waste can travel through the soil (infiltration rates) and therefore the minimum distance between containment and water sources. The infiltration rate will also depend on the nature of the excreta – more watery excreta will travel faster than less watery excreta. Approximate rates for wastewater in different soil types, and an approximation of the necessary distance between containment and the source are:

Soil type	Infiltration rate litres/m <sup>2</sup> /day (mm/day)	Minimum distance
Sand	33-50	
Sandy loam	24	
Silt loam	18	
Clay loam	8	
Clay	Unsuitable for soak pits or trenches	-

In high water table or flood situations, make the pits or containers for excreta watertight to minimise contamination of groundwater and the environment. Build elevated toilets or septic tanks to contain excreta and prevent it from contaminating the environment. Preventing drainage

or spillage from septic tanks from contaminating surface water or groundwater sources is an imperative.

Where distances between containment pits and water sources are inadequate, appropriate management of the risk of contamination of water source should be reflected in a water safety plan (see Water Supply Standard 2). Although some contaminants in a water source can be managed with purification methods including chlorination, an understanding of contamination risk will help to identify and manage the risk of other associated contaminants. These other contaminants include nitrate and acquired methemoglobinemia, which is an acute but reversible condition in which high nitrate in drinking water has been implicated.

### ***Planning***

As a rule of thumb, plan for an excreta volume in the immediate phase of to 1 to 2 litres per person per day, and in the longer term of 40 to 90 litres per person per year (noting excreta reduces in volume as it decomposes). This depends on water used for flushing or not, material or water for anal cleansing, water and other material for cleaning toilets, and diet of the users. Care should be taken to ensure that water from households for cleaning and cooking, laundries and bathing areas should not enter the containment facilities, as the excess water will mean more de-sludging.

Allow 0.5 m at the top of the pit for backfill.

For specific public health situations, such as cholera, specific guidance is available – see References.

### ***Containment of children's faeces***

Pay attention to the disposal of children's and babies' faeces. They are commonly more dangerous than those of adults. Excreta-related infection among children is frequently higher and children may not have developed antibodies to infections. Provide parents and caregivers with information about safe disposal of infants' faeces, laundering practices and the use of nappies (diapers), potties or scoops to manage safe disposal.

### ***Local markets***

Depending on the impact on local markets and the environment, use locally available material for construction of toilets where appropriate. It enhances the participation of the affected population in the use and maintenance of the facilities. Provide the population with construction tools to support this aim.

### ***Excreta containment in difficult environments***

In flood or urban crises, the provision of appropriate excreta containment facilities can be difficult. In these situations, consider excreta containment options such as raised toilets, urine diversion toilets, sewage containment tanks, and the use of temporary disposable plastic bags with appropriate collection and disposal systems. Support these different approaches with hygiene promotion activities.



## **Excreta management Standard 4.3: Excreta collection, transport, disposal and treatment**

**On and off-site excreta treatment and disposal are safe and hygienic and have a minimum impact on the surrounding environment.**

**Key action 1:** Work with local authorities responsible for excreta management to ensure collection, transport, treatment and disposal systems developed and established in a response align with local systems. Ensure that extra load placed on existing systems does not adversely affect the environment or communities.

**Key action 2:** Determine and design appropriate treatment and disposal methods.

- Consider soil conditions (permeability) for any onsite methods.
- Agree with local authorities and landowners about the location and use of land for any off-site treatment and disposal.
- Apply national standards for any on-site or off-site treatment and disposal method.

**Key action 3:** Ensure that excreta de-sludging from the containment facility is conducted in a safe manner, both for those doing the collection and those around them.

**Key action 4:** Ensure that any water needs of the transport system can be met from water sources, and does not place undue stress on those sources.

### **Key indicators**

***Percentage of sites free of de-sludged faecal matter in surface or groundwater sources.***

- 100%

### **What else do I need to know?**

#### ***De-sludging***

Some technical options include the necessity of de-sludging, ie. physically removing the (perhaps partially treated) excreta from the pit, vault or tank and transporting it to an off-site treatment and disposal facility. If de-sludging is required, it must be considered from the start of planning as this need will have an impact on site planning (access to the pits by the de-sludging equipment), household management of the toilets, ongoing operations and maintenance budgets, as well as the final treatment and disposal site selection (new or existing).

## WASH excreta management Standard 4.4: Management and maintenance

**Excreta management facilities, infrastructure and systems are safely managed and maintained to ensure service provision.**

**Key action 1:** Define the most appropriate structures and systems for short and long-term management of toilets, especially including sub-structures (pits, vaults, septic tanks, soakage pits).

- Establish clear and accountable roles and responsibilities with sources of finance to manage future operation and maintenance.

**Key action 2:** Ensure that excreta collection from the toilet is conducted in a safe manner, both for those doing the collection and those around them.

**Key action 3:** Ensure that people have the means, tools and materials to construct, clean, repair, and maintain their toilets.

**Key action 4:** Conduct participatory and accessible hygiene promotion campaigns, including for people with incontinence, on the use, cleaning and maintenance of toilets.

### Key indicators

***Percentage of toilet pits, vaults or tanks overflowing***

- 0%

***Percentage of sites or settlements where faecal matter is present.***

- 0%

***Percentage of toilets that are regularly cleaned.***

- 100%

### What else do I need to know?

#### ***Excreta as a resource***

People planning responses should view excreta as a potential resource, not just as disposable waste. If effectively managed, excreta may be a source of energy that can be used to support humanitarian operations. For example, ecological sanitation which, unlike most conventional sanitation methods, processes human waste as well as sometimes animal waste, and organic kitchen waste to recover organic fractions and nutrients to be used as fertiliser for growing crops that would otherwise be discarded and an environmental problem. Biogas options could also be considered at the right phase of the response and in the appropriate contexts.

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## 5. Vector Control

A vector is a disease-carrying agent. Vectors create a pathway from the source of a disease to people. Vector-borne diseases are a major cause of sickness and death in many humanitarian settings. The majority of vectors are insects such as mosquitoes, flies and lice, but they can also be rodents. Additionally, some insects and rodents, even if not disease vectors, can also cause painful bites and can be symptomatic of solid waste, drainage or excreta management problems, site selection inadequacies or broader safety and security problems.

The nature of vector-borne disease can be complex, and addressing vector-related problems may demand specialised attention. However, there are simple and effective measures that prevent the spread of such diseases, following the identification of the disease, its vector and their interaction with the population.

**Potential problem vectors:** Mosquitoes are the vector responsible for malaria transmission, which is a leading cause of morbidity and mortality. Mosquitoes also transmit other diseases, such as yellow fever, dengue and other haemorrhagic fevers, and they are a potential transmission path for trachoma. Non-biting flies that share environments with humans and animals, like the house fly, the blow fly and the flesh fly, can transmit diarrhoea, hepatitis and other diseases. Biting flies, bedbugs and fleas are a painful nuisance and, in some cases, they transmit diseases such as murine typhus, scabies and plague. Ticks transmit relapsing fever, lyme disease and other diseases, while human body lice transmit typhus and relapsing fever. Rats and mice can also transmit diseases, such as leptospirosis and lassa fever. In addition, they can be hosts for other vectors, for example, fleas, which may transmit plague and other infections. Additionally, there are a number of significant diseases which are transmitted by invertebrate organisms whose life-cycle, either partly or wholly, is associated with the aquatic environment, such as schistosomiasis.

Vector control programmes may have no impact on disease if they target the wrong vector, use ineffective methods or target the right vector in the wrong place or at the wrong time. These three standards focus on the reduction or elimination of problem vectors to prevent vector-borne disease and reduce nuisance. As well as connections to other WASH standards, there are significant links to the Shelter / Settlements and NFI standards as well as to the Health Standard 2.1 Essential Services - Communicable Diseases.

Control programmes should initially aim to address the following objectives: reduce vector population density; reduce human – vector contact; and reduce vector breeding sites. Poorly executed programmes can be prejudicial. Seek existing studies and expert advice from national and international health organisations. In addition, seek local advice on local disease patterns, breeding sites, seasonal variations in vector numbers and incidence of diseases.

### Vector control Standard 5.1: Vector identification and targeting

**Actions taken to control vectors are specifically targeted, and based on the life-cycles and ecologies of the vectors.**

**Key action 1:** Undertake an assessment of potential vector-borne disease risk.

- Include epidemiological evidence of a vector-borne disease problem, and assess the epidemiological characteristics of known vectors in the area.
- Assess and understand the potential vector breeding sites, using local expertise and knowledge of important vectors.
- Assess and understand other critical aspects of the vector lifecycle, especially feeding.
- Advocate with decision makers, supported by evidence, to avoid selecting settlement sites close to major breeding locations of local vectors.

**Key action 2:** Issue prevention and control guidelines to affected people, local authorities or institutions that are appropriate to the problem vector and its life cycle.

**Key action 3:** Ensure solid waste management, excreta management, drainage and water supply components of WASH programmes are designed and implemented to reduce or eliminate the risk from problem vectors.

## Key indicators

***Percentage of regularly updated WASH sector response plans based on a (seasonal) risk assessment of known and potential vectors, linked to vector life cycles.***

- 100%

## What else do I need to know?

### ***Planning***

Be aware of the potential impact on vectors from other WASH programming, and ensure countermeasures are also programmed. For example, poorly managed runoff from communal water points can create a breeding ground for some vectors.

### ***Urban areas***

In urban areas, address vector control needs in collaboration with local authorities and service providers. Spread existing control programs to the affected populations as much as possible. In situations where local authorities are operational and national standards for vector control exist (especially in dense urban populations) establish a timeline that ensures compliance as quickly as possible.

### ***Other***

Base decisions about vector control interventions on an assessment of potential disease and other risks, as well as on epidemiological and clinical evidence of vector-borne disease problems. Factors influencing this risk include:

- immunity status of the population, including previous exposure, nutritional and other stresses;
- movement of people (for example, refugees, internally displaced people (IDPs)) from a non endemic to an endemic area is a common cause of epidemics;
- pathogen type and prevalence, in both vectors and humans;
- vector species, numbers, behaviours and ecology (season, breeding sites); and
- increased exposure to vectors: proximity, settlement pattern, shelter type, existing individual protection and avoidance measures.

Commonly used indicators for measuring the impact of vector control activities are vector-borne disease incidence rates (from epidemiological data, community-based data and proxy indicators, depending on the response) and parasite counts (using rapid diagnostic kits or microscopy). See Health Standards 1 and 2.1.

## **Vector control Standard 5.2: Actions at settlement level to control vectors**

Actions at the settlement level targeting breeding and feeding sites, reduce the risk of vector-related problems to affected people and host communities.

**Key action 1:** Engage with the affected people and host communities to design and implement vector control programs, based on a risk assessment of the relevant vector, at the settlement level.

**Key action 2:** Ensure any humanitarian vector control actions are aligned with local vector control plans or systems, and with national guidelines, programs or policies.

**Key action 3:** Conduct non-chemical control of vectors outside households, including biological controls when relevant and based on an understanding of problem vector life-cycles.

- Ensure vector breeding cycles are disrupted through solid waste management, excreta management and water supply programs. Engage with other sectors and with local communities to ensure that all breeding sites are targeted through inter-sectoral actions.
- Assess the potential for biological control of problem vectors.
- If relevant to the vector, undertake trapping programs.

**Key action 4:** Conduct chemical control of vectors outside households when relevant and based on an understanding of problem vector life-cycles.

<ul style="list-style-type: none"> <li>• Inform the population about any potential risks that originate from chemical control of vectors, and about the schedule for chemical application.</li> <li>• Protect all personnel handling chemicals by providing training, protective clothing, bathing facilities and restricting the number of hours they spend handling chemicals.</li> <li>• Follow accepted international and national standards and norms for the quality, storage and transport of chemicals for vector control measures.</li> </ul>
<b>Key indicators</b>
<p><b><i>Percentage of identified breeding sites where the vector's life-cycle is disrupted.</i></b></p> <ul style="list-style-type: none"> <li>• Context specific and determined by assessment.</li> </ul>
<p><b>What else do I need to know?</b></p> <p><b><i>Camps</i></b>  Site selection is important in minimising the exposure of the affected population to the risk of vector-borne disease. This should be one of the key factors when considering possible sites. Regarding malaria control, for example, locate camps 1–2 kilometres upwind from large breeding sites, such as swamps or lakes. But ensure the availability of an additional clean water source. Also consider the impact a new settlement site can have on the presence of problem vectors in neighbouring host communities.</p> <p><b><i>People on the move</i></b>  With the difficulty in finding, tracking and often reaching people who are moving, distribution and use of household vector control items, such as long lasting insecticide-treated nets (LLIN), can be difficult. It can also lead to communal or institutional activities rather than household activities, especially in communal and temporary shelters, as ownership by affected people can be difficult to initiate due to the short timeframe for engagement with these affected people.</p> <p><b><i>Removal or modification of vector-breeding and feeding sites</i></b>  Many other WASH activities can have a major impact on vector breeding and feeding sites, including (but not limited to):</p> <ul style="list-style-type: none"> <li>• the elimination of stagnant waters or wet areas around water distribution point, bathing areas and laundries;</li> <li>• solid waste storage at household level, collection and transportation, and treatment and disposal sites;</li> <li>• excreta management measures in general;</li> <li>• cleaning toilet slabs and superstructures to dissuade vector presence;</li> <li>• sealed offset toilet pits ensuring no faeces enters the environment and that problem vectors don't enter the pits; and</li> <li>• hygiene-promotion programmes on general cleanliness.</li> </ul> <p><b><i>Biological and non chemical control</i></b>  Biological control is based on the introduction of organisms that prey upon, parasitise, compete with or reduce populations of the target vector species. Certain species of larvivorous fish and predatory copepods (small freshwater crustaceans) have proved effective control agents of <i>Aedes</i> mosquitoes (vectors of dengue). One of the most promising strategies is the use of <i>Wolbachia</i></p>

endosymbiotic bacteria, which has been targeted towards reducing DENV transmission. Biological control has been effective in certain operational environments, and evidence points to it being effective at scale. While biological control avoids chemical contamination of the environment, there may be operational limitations, such as the expense and task of rearing the organisms on a large scale, difficulty in applying them, and their limited utility in aquatic sites where temperature, pH and organic pollution may exceed the narrow requirements of the organism. Biological control methods are effective only against the immature stages of vector mosquitoes in the larval habitat where they are introduced. The biological control organisms are not resistant to desiccation, so their use is mainly restricted to container habitats that are cleaned, such as large concrete or glazed clay water-storage containers or wells. The willingness of local communities to accept the introduction of organisms into water containers is essential. Community involvement is desirable when distributing the fish or copepods, and in monitoring and restocking containers when necessary.

#### ***Environmental and chemical vector control***

There are several basic environmental engineering measures that reduce the opportunities for vector breeding. These include:

- the proper disposal of human and animal excreta;
- proper disposal of refuse to control flies and rodents; and
- drainage of standing water and clearing unwanted vegetation cover around open canals and ponds to control mosquitoes.

Such priority environmental health measures will have some impact on the population density of some vectors. It may not be possible to have sufficient impact on all the breeding, feeding and resting sites within or near a settlement, even in the longer term. In such cases, consider the need for localised chemical control or individual protection measures. For example, spraying infected spaces may reduce the number of adult flies and prevent a diarrhoea epidemic, or may help to minimise the disease burden if employed during an epidemic.

#### ***Environmental mosquito control***

Environmental control aims primarily at eliminating mosquito breeding sites. The three main species of mosquitoes responsible for transmitting disease are *Culex* (filariasis), *Anopheles* (malaria and filariasis) and *Aedes* (yellow fever and dengue). *Culex* mosquitoes breed in stagnant water loaded with organic matter such as toilets. *Anopheles* breed in relatively unpolluted surface water such as puddles, slow-flowing streams and wells. *Aedes* breeds in water receptacles such as bottles, buckets, and tyres. Examples of environmental mosquito control include good drainage, properly functioning ventilated improved pit (VIP) toilets,, keeping lids on the squatting hole of pit latrines and on water containers, keeping wells covered and/or treating them with a larvicide (for example, for areas where dengue fever is endemic).

#### ***National and international protocols***

WHO has published clear international protocols and norms that address both the choice and the application of chemicals in vector control, as well as the protection of personnel and training requirements. Vector control measures should address two principal concerns: efficacy and safety. If national norms regarding the choice of chemicals fall short of international standards then consult with and lobby the relevant national authority for permission to adhere to the international standards.



### ***Malaria treatment***

Implement malaria vector control strategies simultaneously with early diagnosis and treatment with effective anti-malarials. Such strategies will include eliminating breeding sites, reducing the mosquito daily survival rate and restricting their habit of biting humans. Initiate and sustain campaigns to encourage early diagnosis and treatment. An integrated approach is more likely to reduce the malaria burden than will passive case finding through centralised health services. Combine active case finding by trained outreach workers and treatment with effective anti-malarials. See Health Standard 2.1 Essential Health Services - Communicable Diseases.

## **Vector control Standard 5.3: Household and personal actions to control vectors**

**All affected people have the knowledge and means to protect themselves and their families from vectors that can cause a significant risk to health or well-being.**

**Key action 1:** Assess current vector avoidance or deterrence behaviours and practices at the household level among the affected population and host communities as part of an overall hygiene promotion program.

**Key action 2:** Identify barriers and motivators to adopting more effective behaviours.

**Key action 3:** Ensure people are informed regarding problem vectors, high risk transmission times and locations, and preventative measures through participatory and accessible awareness campaigns. Follow up specifically with high risk groups.

**Key action 4:** Conduct a market assessment to determine whether relevant and effective preventative measures are available in the local market. Consider strengthening markets to provide a sustained source of preventative measures in the local community.

See Annex xx: Delivering through markets, for guidance on supply chain management practices.

**Key action 5:** Make a procurement and distribution plan for such items in collaboration with the community, local authorities and other sectors if local markets are unable to meet the need for relevant and effective preventative measures.

**Key action 6:** Ensure communities can monitor, report, and provide feedback on problem vectors and can seek feedback on the program implemented.

**Key action 7:** Ensure that local host populations are also able to benefit from vector-control actions developed for displaced people.

<b>Key indicators</b>
<p><b><i>Percentage of affected people who can describe modes of transmission and effective vector control measures at the household level.</i></b></p> <ul style="list-style-type: none"> <li>• 75%</li> </ul>
<p><b><i>Percentage of people who are able to take appropriate action to protect themselves from relevant vector-borne diseases.</i></b></p> <ul style="list-style-type: none"> <li>• 75%</li> </ul>
<p><b><i>Percentage of households with adequate protection for stored food.</i></b></p> <ul style="list-style-type: none"> <li>• 100%</li> </ul>
<p><b>What else do I need to know?</b></p> <p><b><i>Individual malaria protection measures</i></b></p> <p>Timely, systematic protection measures such as insecticide-treated materials. For example, treated tents, curtains and bed nets help protect against the risk of malaria. Impregnated bed nets have the added advantage of giving some protection against body and head lice, fleas, ticks, cockroaches and bedbugs. Use other protection methods like long-sleeved clothing, household fumigants, burning coils, aerosol sprays and repellents against mosquitoes. It is vital to ensure that users understand the importance of protection and how to use the tools correctly, so that the protection measures are effective. Support their use by individuals and groups most at risk, such as children under five years old, non-immunes and pregnant women.</p> <p><b><i>High risk groups</i></b></p> <p>As with many communicable diseases, some sections of the community will be more vulnerable to vector-related diseases than others. This will depend to some extent on the vectors and the diseases, but as a rule of thumb would include pregnant and lactating mothers, babies and infants, older people, those with disabilities, and sick people. Vector control programs should identify such high-risk groups and the specific actions taken to ameliorate that risk. Special care needs to be taken to ensure stigmatization does not occur.</p> <p><b><i>Social mobilisation and communication</i></b></p> <p>Vector-borne diseases require more than individual behaviour change to influence reduced disease transmission. Behavioural change is required at both individual and community levels to reduce vector larval habitats successfully, and in turn to reduce the number of adult vectors available to transmit disease. This has led to greater emphasis on social mobilisation and communication activities which are fully integrated into dengue prevention and control efforts. Use a wide diversity of communication channels and means to ensure access to wider segments of the population.</p> <p><b><i>Individual protection measures for other vectors</i></b></p> <p>Good personal hygiene and regular washing of clothes and bedding are the most effective protection against body lice. Control infestations by personal treatment (powdering), mass laundering or delousing campaigns. Develop and use treatment protocols for new arrivals in the</p>

settlement. A clean household environment, together with good waste disposal and good food storage (cooked and uncooked), will deter rats, other rodents and insects (such as cockroaches) from entering houses or shelters.

### **Water-borne diseases**

Inform people of the health risks of water-borne diseases. Encourage them to avoid entering bodies of water where there is a known risk of contracting diseases such as schistosomiasis, Guinea worm or leptospirosis (transmitted by exposure to mammalian urine, especially that of rats). Agencies may need to work with the affected population to find alternative sources of water or ensure treatment of water for human use.

### **Annexes:**

- inter-sectoral coordination matrices especially with Health, as well as Education (for schools), SSHI for NFIs and site planning.
- Water- and excreta-related diseases and transmission mechanisms

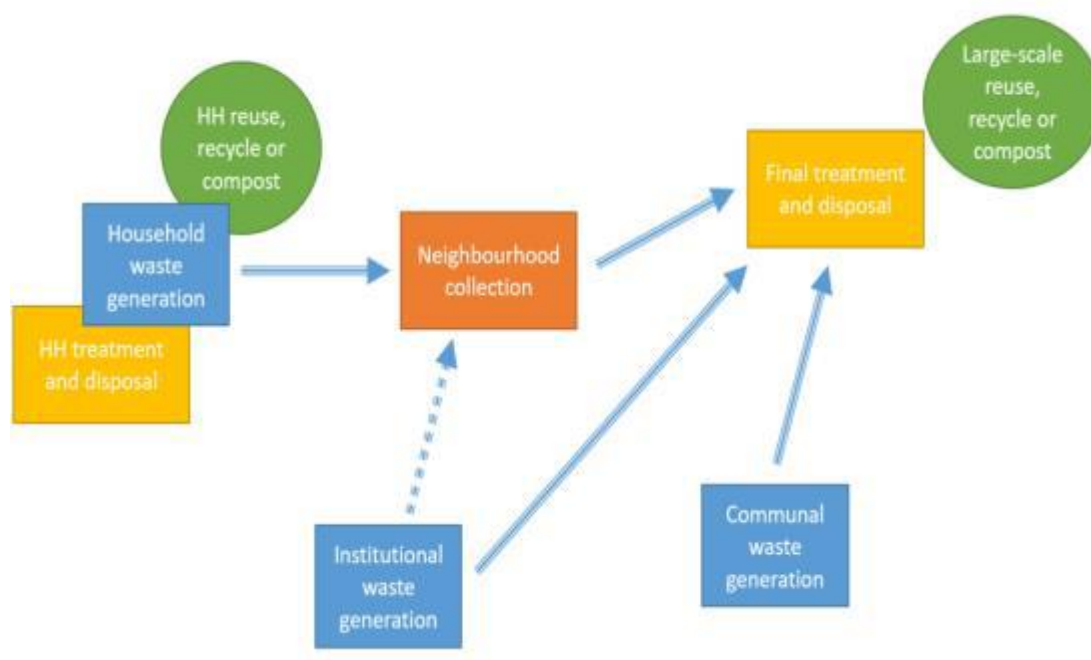
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12. WHO HANDBOOK for Integrated Vector Management
13. Biological Control of Mosquito Vectors: Past, Present, and Future, Giovanni Benelli,1 Claire L. Jeffries,2 and Thomas Walker 2016

## 6. Solid Waste Management

Solid waste management is the process of managing organic and inorganic, household, institutional and communal, hazardous (including medical) and non-hazardous solid waste. The process involves:

- planning solid waste management systems;
- generating, handling, separating, storing, sorting, processing at source;
- perhaps transfer to a collection point; and
- transportation and final disposal.



Waste can be generated at the household, institutional or communal level. Markets as communal spaces need particular attention paid to solid waste management as communal areas often lack designated ownership and thus responsibility for solid waste management.

Reuse and recycling also play an important part in solid waste management.

Inadequate solid waste management poses a public health risk. These risks include flies and rodents that grow on solid waste (see Vector control section), and surface and groundwater pollution by solid waste. Unmanaged solid waste may present an injury or sickness threat, especially for children who may play in debris. Unmanaged solid waste may also block drainage channels, increasing the risk of flooding. It can create stagnant and polluted surface water, which can generate environmental health problems.

Waste pickers, who gain an income from collecting recyclable materials from waste dumps, may also be at risk of injury or infectious disease from medical waste mixed with household waste.

This chapter does not cover treatment or disposal of chemical effluents or leachates. Hazardous waste other than medical waste is also not covered in this chapter, and for advice on handling and treating it, please see the references.

## Solid Waste Management Standard 6.1: Solid waste systems planning

**Key action 1:** Design and implement the solid waste disposal programme with the affected and host populations to make sure it is appropriate to context.

**Key action 2:** Work with existing local or municipal authorities and service providers to make sure that existing systems and infrastructures are not overloaded.

- This applies particularly in urban areas.
- Ensure existing off-site waste treatment and disposal infrastructure and services can be used by the affected populations as much as possible.
- Ensure that any new off-site infrastructure and services can be accessed by the host community if required.

**Key action 3:** Assess the extent to which solid waste has an impact on people's health, and take appropriate action if necessary.

**Key action 4:** Consider waste management needs of host communities as part of the whole system, reflecting additional waste generated.

### Key indicators

*Percentage of sites with comprehensive, appropriate and practical solid waste systems in place*

### What else do I need to know?

Plan and implement solid waste disposal in consultation with the affected people, relevant humanitarian organisations and regulatory authorities. This should start at the beginning of the intervention, before solid waste becomes a public health risk.

Assess and understand existing municipal solid waste management systems and infrastructure. Work with any existing authorities and their systems to ensure that the extra solid waste burden can be accommodated.

Where local health authorities operate and have standards or policies on solid waste management, establish a timeline for compliance as quickly as possible.

<p><b>Solid Waste Management Standard 6.2: Generation and management at source</b></p> <p><b>Generating and managing solid waste at source</b></p>
<p><b>Key action 1:</b> Assess the likely waste streams for content and volume.</p>
<p><b>Key action 2:</b> Ensure that households have convenient, adequately sized and preferably covered storage for waste generated in the household.</p> <ul style="list-style-type: none"> <li>Consider household preference for re-use and recycling.</li> <li>Where it is not possible to provide refuse containers for each household, provide refuse containers for a small number of clustered households.</li> </ul>
<p><b>Key action 3:</b> Ensure that institutions, such as schools and learning spaces, child friendly spaces and administrative offices have clearly marked, appropriate and adequate, covered storage on-site for waste generated at that location.</p>
<p><b>Key action 4:</b> Provide clearly marked and fenced storage for waste generated in communal areas, especially formal or informal markets, transit centres, registration centres, and other public spaces.</p>
<p><b>Key action 5:</b> Work with organisations responsible for food and household item distribution to minimise packing material and reduce the solid waste burden.</p> <ul style="list-style-type: none"> <li>Avoid the distribution of household items that generate a large amount of solid waste from packaging or processing on-site.</li> </ul>
<p><b>Key action 6:</b> Organise periodic or targeted solid waste clean-up campaigns, and ensure infrastructure exists and is ready to support the campaign.</p>
<p><b>Key action 7:</b> Encourage re-use or recycling of solid waste within the community, unless doing so presents a significant public health risk.</p> <ul style="list-style-type: none"> <li>Consider the potential for small-scale business opportunities or supplementary income from waste recycling.</li> <li>Consider the potential for household or communal composting of organic waste.</li> </ul>
<p><b>Key indicators</b></p>
<p><b><i>Percentage of households using appropriate and adequate waste storage at household level.</i></b></p> <ul style="list-style-type: none"> <li>100% all the time</li> </ul>

***No solid waste accumulating in people's immediate living, learning and working environments.***

***Percentage schools and learning centres using appropriate and adequate waste storage at institutional level.***

- 100% all the time

***Number of targeted public spaces where waste is regularly removed.***

### **What else do I need to know?**

#### ***Planning***

Assume that between 0.5 to 10 litres of solid waste is generated per person per day (based on context).

#### ***People on the move***

People on the move tend to travel with few possessions. They will discard items that they no longer need or are too heavy. Solid waste generation at distribution points may increase tensions with host populations. Note that the volume of solid waste will increase if distributed household items do not meet real needs. The solid waste generated is likely to be of different materials to that generated locally, and may need to be treated or disposed of differently.

#### ***Urban areas***

Assess and understand existing municipal solid waste management systems and infrastructure. Work with any existing authorities and their systems to ensure that the extra solid waste burden can be accommodated.

Where local health authorities operate and have standards or policies on solid waste management, establish a timeline for compliance as quickly as possible.

#### ***Market waste***

Market waste is a form of communal waste that can pose particular challenges due to the difficulty in assigning responsibility to communal areas. When appropriate, treat most market waste in the same manner as domestic solid waste.

#### ***Abattoir waste***

Much of the solid waste produced by abattoirs and fish markets can also be treated in the same manner as domestic solid waste. However, pay special attention to disposing of the liquid waste produced by abattoirs and fish markets. Ensure that slaughtering is hygienic and complies with local laws. If appropriate, dispose of this waste in a covered pit next to the abattoir or fish processing plant. Run blood and other liquid waste into the pit through a slab-covered channel to reduce insect access to the pit. Make water available for cleaning purposes.

<p><b>Solid Waste Management Standard 6.3: Transportation, treatment and disposal</b></p> <p><b>Designated public collection points do not overflow with waste, and final treatment or disposal of waste is safe and secure.</b></p>
<p><b>Key action 1:</b> Organise a system to regularly remove household and other waste from designated public collection points.</p>
<p><b>Key action 2:</b> Avoid creating health and environmental problems for the host and affected populations in the final treatment and disposal of solid waste.</p>
<p><b>Key action 3:</b> Ensure that burial or burning pits at household, institutional or communal levels are safely managed.</p>
<p><b>Key action 4:</b> Ensure that large-scale off-site landfill or burial sites are appropriately, adequately and safely managed.</p> <ul style="list-style-type: none"> <li>• Understand and build on any existing safe and appropriate treatment and disposal methods, including burying, managed landfill and incineration.</li> <li>• Integrate with those methods as soon as possible.</li> <li>• Manage waste disposal sites such as landfills to prevent or minimise protection risks, especially for children.</li> </ul>
<p><b>Key action 5:</b> Understand and build on locally used recycling, reuse or composting methods.</p>
<p><b>Key action 6:</b> Provide protective clothing and immunisation to people who deal with the collection and disposal of solid waste material, and those involved in material collection for recycling.</p>
<p><b>Key action 7:</b> Regularly monitor quantities and nature of waste generated, and adjust collection, treatment and disposal options as necessary.</p>
<p><b>Key indicators</b></p>
<p>% of households with access to designated neighbourhood or communal collection points at an acceptable (preferably pre-defined) distance from their dwellings.</p>
<p>No health threat is posed by final solid waste disposal site to local communities or affected people.</p>
<p>There is no solid waste accumulating in public designated collection points.</p>



All solid waste is safely and securely reused, recycled, composted, disposed of, or otherwise treated.

### What else do I need to know?

#### ***Protection for waste handlers***

Protective clothing should be provided to everyone involved in solid waste management. At minimum, provide gloves. Ideally, provide boots and protective masks. When necessary, provide immunisation against tetanus and hepatitis B. Make water and soap available for hand and face washing. Inform and train staff on the correct methods of transport and disposal of waste and the risks associated with improper management of that waste.

In many communities waste handlers are stigmatised as dirty or poor. While changing entrenched community attitudes overnight is not likely, actions can be taken to minimise this stigma, through community consultation, ensuring waste handlers are able to maintain cleanliness and have appropriate equipment.

#### ***Camps and rural areas***

In camps and areas with lower population densities, household disposal of solid waste generated there may be possible and even preferred. Base the size of domestic solid waste burial or burning pits on household size. They should be properly fenced to prevent children and animal accessing them, and ideally at least 15 metres from dwellings.

For neighbourhood or communal collection points, aim to initially provide a 100-litre bin for every 40 households, and one bin per 10 households in the longer term - household consumption is likely to increase over time. As a rule of thumb, a 2.5-person maintenance team, prepared with protection equipment and transportation tools, should be available per 1000 persons.

## **Solid Waste Management Standard 6.4: Medical solid waste**

*Ensure medical waste does not hurt or damage affected people, host communities or the environment.*

**Key action 1:** Separate medical wastes from other solid wastes throughout the solid waste management process.

**Key action 2:** Undertake final disposal of medical solid waste in such a manner and place as to avoid creating health and environmental problems for the host and affected populations.

**Key action 3:** All medical waste (including glassware, needles, dressings and drugs) is disposed of separately in a correctly designed, constructed and operated facility.

<b>Key action 4:</b> Provide appropriate training, protective clothing and immunisation to personnel who manage hazardous solid waste.
<b>Key indicators</b>
<p><b>Percentage of health facilities appropriately disposing of hazardous waste.</b></p> <ul style="list-style-type: none"> <li>100 all the time</li> </ul>
<p><b>Number of incidents of hazardous waste exposure at the community level</b></p> <ul style="list-style-type: none"> <li>Zero</li> </ul>
<p><b>What else do I need to know?</b></p> <p><b>Health threats</b></p> <p>Poor management of medical waste exposes the population, healthcare workers, and waste handlers to infections, toxic effects and injuries. The environment is also exposed. waste, such as sharps, wound dressings, blood-stained cloth and organic matter such as placentas are considered hazardous..</p> <p>Separate the different types of waste at source - the Health standard describes the minimum ‘three bin’ method from point of waste generation all the way to disposal. Dispose of non-hazardous waste as solid waste.</p> <p><b>Protection for waste handlers</b></p> <p>Protective clothing should be provided to everyone involved in medical solid waste management. At minimum, provide gloves and boots. Ideally, also provide protective masks. Train all medical staff, including cleaners and other non-medical staff, in the correct methods of storage, transport and disposal of medical waste and the risks associated with improper management of that waste. In contexts where family members provide some non-medical services in health facilities, ensure they are also trained.</p>

## Annexes

- Tool for intersectoral agreement

## References

- Flash Environmental Assessment Tool - find on learning. eecentre.org
- Environment is a cross-cutting theme as defined by IASC:  
<https://www.humanitarianresponse.info/system/files/documents/files/Temas%20transversales%20en%20emergencias.pdf>
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- “Engineering in Emergencies”, RedR 2004
- “Public health engineering in precarious situations”, MSF 2010
- WHO, Technical Note 7 “Solid waste management in emergency
- Composting in humanitarian settings?
- Recycling and re-use in humanitarian settings?
- Source: European Union – Emergency sanitation, Chapter 7 “Solid waste management”

## 7. WASH and communicable disease outbreaks

The role of the WASH sector in a disease outbreak is twofold: community engagement with hygiene promotion, and the provision of WASH infrastructure and services. The engagement of communities in public health risks associated with the disease outbreak is important to understand how socio-cultural factors influence risky practices, and moreover to promote community-led actions that can be taken to stop transmission. The provision of WASH services and infrastructure in treatment centres and in the community during a disease outbreak complements community engagement efforts intended to stop transmission.

Overcrowding and poor environmental conditions after crises can increase the risk of morbidity and mortality from communicable diseases such as diarrhoea. Communicable diseases themselves can constitute a crisis when the disease is an epidemic or when it is endemic in a country or region. Coordinated and focussed WASH interventions are critical in reducing the severity of an outbreak and are considered life-saving. It is important for Health and WASH actors to work together to ensure an adequate, timely and appropriate response.

Recent Ebola and cholera outbreaks have highlighted the importance of adequate preparedness, strong coordination, technical capacity, and joint responses between WASH and health sectors. This combined WASH and health standard responds to this lesson. Coordination and cooperation between WASH and health stakeholders is necessary for an effective, coherent, and timely response in a disease outbreak.

These two standards focus on Infection Prevention and Control (IPC) in community, household and health care facilities during a disease outbreak. The following Health Standards should be used with this standard: health systems; essential health services; communicable diseases; and the WASH standards. The WASH standards include specifically the following: water; excreta disposal; hygiene, and solid waste management.

### **WASH and Disease Outbreaks Standard 7.1: Limiting disease transmission at the community and household level**

Communities have access to coordinated information, essential items, and services that are designed to prevent and to respond to communicable diseases.

**Key action 1:** Carry out a rapid public health, and WASH risk assessment to determine which areas and populations (including by age, gender, vulnerabilities) are most at risk.

- Analysis of health data, transect walks, focus group discussions and key informant interviews shall inform the extent of, and the quality of access to essential items and services.

**Key action 2:** Systematically engage all segments of the affected population, along with key stakeholders to identify appropriate community structures to mobilise in response to the outbreak.

**Key action 3:** Identify specific social, cultural, or religious factors that will motivate different social groups in the community.

- Understand existing attitudes and beliefs of the affected population to health.

<ul style="list-style-type: none"> <li>• Identify and engage with both informal and formal health care providers - traditional medical practitioners, health care facilities, religious leaders.</li> <li>• Understand common myths, fears, and beliefs that drive health seeking behaviour.. Research these beliefs among the people who are at risk, infected, and the survivors.</li> <li>• Find out about any traditional treatment of the disease, and determine how to accommodate this treatment.</li> <li>• Identify who is most affected and who is at greatest risk. Identify their age and gender, and the practices that put them at risk and make them more vulnerable to infection.</li> <li>• Seek an understanding of the appropriate social and cultural norms for funeral management during normal conditions. Determine whether such practices are safe, given the nature of the disease outbreak. Engage community leaders in identifying acceptable modifications.</li> </ul>
<p><b>Key action 4:</b> Actively collaborate with local and national authorities, Ministry of Health, WASH and health actors to coordinate a plan for the disease outbreak response.</p>
<p><b>Key action 5:</b> Engage individuals and communities in the affected areas and nearby areas to raise awareness about the disease.</p> <ul style="list-style-type: none"> <li>• Put measures in place to mitigate the risks.</li> <li>• Identify the practical and feasible actions that they can take to prevent transmission of the disease.</li> <li>• Determine which are the critical WASH activities in an outbreak. Prioritise critical activities over non emergency WASH programmes.</li> <li>• Consider a range of technical, mobilisation, or educational activities that target both affected people and quarantined households. Consider engagement and action with different groups, such as traditional healers, religious leaders, and school teachers.</li> </ul>
<p><b>Key action: 6: Access public health disease surveillance data from the following sources: public, private, and community-based health facilities; birth attendants; and traditional healers.</b></p> <ul style="list-style-type: none"> <li>• Advocate for this information to be accessible, and presented, if not readily available.</li> <li>• Adapt the response based on an analysis of up-to-date disease surveillance data. Ensure that data protection is respected.</li> </ul>
<p><b>Key indicators</b></p>
<p><b><i>Percentage of the affected population that can describe the causes and symptoms of the disease.</i></b></p> <ul style="list-style-type: none"> <li>• 100% at all times</li> </ul>

***Percentage of people who can describe two priority actions necessary to prevent the spread of the outbreak.***

- 100% at all times
- Drinking chlorinated water (with 0.5 mg/litre FCR at point of use).
- Handwashing with soap or alternative at key times.
- Containment of excreta.
- Early recognition of signs and symptoms and appropriate health seeking behaviour.

***Number of litres of chlorinated water per person per day (l/p/day) accessible for drinking, domestic, and personal hygiene.***

- 1 mg/litre FCR at distribution.
- 0.5 mg/litre FCR at point of use.
- 15 litres per person per day.
- The quantity of water provided should be based on cultural and social norms, context, and in coordination with National and/or cluster members.

***Percentage of affected households possess at least two clean narrow-necked and covered water containers for drinking water.***

- 100% at all times
- 2 water containers per household (1 for collection, and 1 for storage)
- See Water supply, and hygiene standards.

***Percentage of people who can describe the correct action to take if someone in their household is unwell with symptoms of the disease.***

- 100% at all times
- Seek early rehydration
- Seek medical help

***The environment in which people live, learn and work is always free of human faeces.***

- 100% at all times

***Percentage of target population who can identify the importance of handwashing and are able to cite three of the five critical handwashing times.***

- 100% citation of least 3 of the 5 critical hand washing times

<ul style="list-style-type: none"> <li>• 250 grams of soap per person per month; water for hand washing; hand washing station, and/or NFI items</li> </ul>
<p><b><i>Percentage of affected people who understand the importance and use of ORS / SSS</i></b></p> <ul style="list-style-type: none"> <li>• 100% at all times</li> <li>• Sugar salt solution:</li> <li>• 1 litre of safe drinking water, with ½ small spoon of salt (3.5g) and four big spoons (40g) of sugar.</li> <li>• Oral rehydration salts (ORS) sourced in country.</li> </ul>
<p><b><i>Percentage of affected population that have hygiene items suitable for their priority needs at all times</i></b></p> <ul style="list-style-type: none"> <li>• 100% at all times</li> <li>• Dependent on the context, the severity of the outbreak, and the type of access chosen. Possible types of access include cash, in-kind, and voucher.</li> <li>• Examples could range from, but are not limited to: <ul style="list-style-type: none"> <li>○ 250 grams of soap per person per month;</li> <li>○ One context-specific handwashing station/household;</li> <li>○ Two water containers per HH;</li> <li>○ One month supply of water treatment sachets or tablets with appropriate IEC materials;</li> <li>○ ORS sachets; define if included in key items, or accessed via ORPs or ORCs;</li> <li>○ One bottle of bleach per month.</li> </ul> </li> <li>• Include FCR monitoring at point of use.</li> </ul>
<p><b><i>Percentage of key community groups who have had training and who can communicate three key actions they can take to control the disease outbreak.</i></b></p> <ul style="list-style-type: none"> <li>• These leaders may be community leaders, traditional healers, religious leaders, or women's leaders.</li> <li>• Description and demonstration of key actions taken to reduce the risk of the outbreak.</li> </ul>
<p><b>What else do I need to know?</b></p> <p><b><i>Integration, coordination, and representation</i></b></p> <p>It is critical to ensure that WASH staff (engineers, hygiene promoters and other technical staff) and Health staff coordinate, plan, implement and monitor their efforts when responding to a disease outbreak. It is also important that they represent and advocate for the voice of the community at both health and WASH coordination meetings. These meetings should include the local ministries such as the Ministry of Health, and the respective clusters, where appropriate.</p> <p><b><i>Information management</i></b></p>

Ensure that information and data is shared in a timely and clear manner. Determine the hot spot areas, gaps, areas at risk, and a coordinated response plan between the WASH and health actors.

### ***Myths and perceptions***

Understanding the myths and perceptions of the community is extremely important during a disease outbreak. Social, cultural, and religious beliefs can both deter and inform the acceptance of a response. During the Haiti cholera outbreak, some communities associated cholera with witchcraft and voodoo culture. In other responses, some religious beliefs prevent people from using water purification tablets for chlorination of water, and the use of Oral Rehydration Salts.

### ***Social norms***

During the 2014 West Africa Ebola crisis, it was important for communities to work out new and acceptable ways to participate in community life in a safe way. Shaking hands was discouraged to prevent possible transmission of the virus. Following community conversations and agreements, the handshake was replaced by greeting verbally; placing the hand on the chest; or by knocking shoulders, elbows, or shoes. Agreement regarding significant changes to funeral rites also needed to be reached.

### ***Key leaders and institutions in the community***

In any WASH and health response, key leaders and institutions should be acknowledged and engaged with. These trusted leaders and institutions will serve as focal points for information dissemination, action, and monitoring during the outbreak response. Market places, schools, religious areas, and youth centres provide opportunities to engage with communities. For example, an Imam can provide a concise message of the signs and symptoms of the disease. The Imam can deliver this message during the call to prayer.

### ***Community Hygiene Promoters, Workers and Mobilisers***

It is vital to manage and prioritise the work of all community outreach workers so that they are not overloaded. A rapid scale up of the number of workers will usually be required. It is important that they are well trained and supported. See Hygiene standard for further information.

### ***Media (social media, and regular media)***

Social media can play a role in providing two-way information and in monitoring the response. Facebook, Twitter, and WhatsApp and other applications offer an opportunity to communicate. Groups and hygiene promoters can communicate via audio files, messages, and photographs. This communication can be used to report cases, for information and for action. Then the more traditional media methods of TV and radio provide an opportunity for communicating information (signs, symptoms, where they can seek help).

### ***Information, Education Communication (IEC) materials***

Specific IEC materials may need to be designed for the response. The materials should be developed with the community and with local authorities. Pre-test them before mass production. Coordinate with the WASH and health national level authorities, and with the cluster to standardise the IEC materials. Check if IEC materials exist in country contingency plans.

### ***Water quality monitoring***

Measurement of free residual chlorine (FRC mg/l) at the source, and at point of use is critically important. The measurement should ensure that the affected population can access safe and treated drinking water during an outbreak. Determine the appropriate staff, resources, and data

management required to ensure water quality monitoring robustly informs the effectiveness of access to potable water, uptake of HWTS and household safe water chain practices.

***Quarantined households:***

Where the severity of the outbreak requires that households be quarantined in their community, WASH services are required individually at the home. The WASH services should be carried out in a coherent and timely way. Be aware that quarantine is a contentious strategy, as there is little evidence of its effectiveness. Concentrate efforts on community engagement; provision of WASH services, and items; and contact tracing, and active case finding.

***Contact tracing and active case finding***

Contact tracing involves following up on all people who have been in contact with an individual who tests positive for an infectious disease and should be conducted by trained staff. In a rapid onset, it may be necessary to carry out home visits for an entire target population. These home visits, rather than just an individual's contacts, are necessary to identify cases of a disease. This is known as active case finding. Individuals can be referred to health facilities where necessary. They can also be given early rehydration at their home. Check for their access to key items such as chlorinated water, soap, and water containers are also available at their home. Contact tracing and active case finding relies on a coordinated and integrated response between WASH and health.

***Safe and dignified burials***

It is important to understand the appropriate social and cultural norms for funeral management under normal conditions. Funeral management will differ from the norm, given the nature of the disease outbreak. Funeral management should prevent the unnecessary spread of the disease. If a designated burial team is necessary, training, and provision of Personal Protective Equipment (PPE) is required. Training and PPE should be standardised across health and WASH actors. Where the burial staff members are from the community, make sure that there is support for them through referral to psycho-social services. If there is any stigmatisation from their community in accepting their role in the response, provide an orientation to the leaders in the community. The goal of the orientation is to dampen and eliminate this damaging stigmatisation. Consider a mix of women and men in the burial team as some families may require the same sex of the diseased to carry out the safe and dignified burial.

***Cash and market-based programming***

While carrying out assessments, ensure that an analysis of the market is carried out. Examine opportunities and bottlenecks for the community when accessing key WASH and health services, infrastructure and items. In previous humanitarian responses, payment of staff salaries, or incentive allowances to pay and top up their phones for Community Health Workers, Community Hygiene Promoters / Mobilisers / Workers has been carried out. Cash assistance can help staff fulfil their roles and responsibilities, and to communicate with the affected population and their reporting lines. Strengthening of market factors can include capacity building, and increasing stock levels and diversity of key hygiene items in the local market. This assistance can also provide water suppliers with knowledge and supplies that will ensure safe chlorinated water.



## **WASH and Disease Outbreaks 7.2: Infection Prevention and Control (IPC) in health care facilities**

**Health care facilities maintain minimum WASH and IPC standards. Maintaining standards will reduce the risk of transmission to patients, visitors , and health facility staff.**

**Key action 1:** Provide a reliable water supply of sufficient quantity and quality to the health care facility.

- Where chlorine solutions are required for disinfection purposes, ensure that these are available at the correct strengths, in the correct quantities, at the required times.
- Where water sources may be unreliable or where backup supplies do not exist, sufficient water (at least 72 hours) should be available to ensure constant supply.
- When designing a water supply system, consider the following uses:
  - Staff, patient and visiting drinking water;
  - Staff and patient bathing;
  - Hand washing;
  - General ward cleaning and disinfection;
  - Laundering patient bedding, staff and patient clothing;
  - Cleaning of latrines, and buckets for controlled spills of bodily fluids;
  - Disinfection of Personal Protection Equipment (PPE);and
  - Spraying of footwear on entry and exit of health care facility.

**Key action 2:** Provide excreta disposal facilities that limit the risk of transmission from potentially infectious bodily fluids, whilst considering accessibility, privacy and patient dignity.

- Ensure that environmental contamination from infectious wastes is mitigated through the design of facilities and protocols for sure. Consider that patients who are acutely unwell or with limited mobility will need assistance using latrines, or may need to use alternatives such as commodes, bucket toilets.
- Depending on waste handling protocols, excreta disposal facilities may need to be designed to accommodate other infectious and non-infectious wastes, such as menstrual hygiene and incontinence materials, soiled dressings, materials used for cleaning spills etc.
- Special consideration should be given to planning for safe desludging, decommissioning or sealing excreta disposal systems once full.

**Key action 3:** Ensure that staff, patients and visitors at the health care facility are aware of the health and safety risks, have the knowledge and items required to mitigate these risks through safe and healthy behaviour.

- Use water with different strengths of free residual chlorine (FRC) for different purposes such as drinking, hand washing, and cleaning of surfaces.

<ul style="list-style-type: none"> <li>• Ensure that hand washing facilities are available at key locations to enable hand hygiene protocols to be observed.</li> <li>• Ensure that food for the patients, staff, and caregivers is stored and prepared in a way that minimises the risk of disease transmission.</li> <li>• Cover food</li> <li>• Separate cooked and raw food.</li> <li>• Provide IEC materials and signage in key locations to demonstrate correct IPC, waste management, patient care protocols, highlight particular risks or as reminders to carry out key actions.</li> </ul>
<p><b>Key action 4: Ensure that health care staff and other users have a clear and appropriate understanding of waste handling and disposal protocols, as well as the equipment and facilities required to reliably comply with these protocols.</b></p> <ul style="list-style-type: none"> <li>• Segregate waste at the point of generation, depending on the applicable handling precautions and method of disposal.</li> <li>• The waste disposal protocol should be designed by an IPC specialist to minimise: <ul style="list-style-type: none"> <li>○ risk of infection (from infection wastes)</li> <li>○ risk of injury (e.g. due to handling of sharps or operating incinerators whilst wearing PPE)</li> <li>○ risks of environmental contamination (e.g. smoke from burning pits, contamination of water sources from disposal pits)</li> </ul> </li> <li>• Waste burning pits, placenta pits, sharps pits, incinerators, landfill sites etc. should be designed and built to existing national or international standards. Consideration should be given to safe operation and maintenance of the facilities, as well as to expansion or decommissioning once full.</li> </ul>
<p><b>Key indicators</b></p>
<p><b><i>Percentage of chlorine solution tests show adequate strength for drinking, hand washing and disinfection</i></b></p> <ul style="list-style-type: none"> <li>• When chlorine solution is mixed at health care facility is should be tested before use.</li> <li>• Solution that does not meet requirements should be adjusted and re-tested before being made available.</li> </ul>
<p><b><i>Number of excreta disposal facilities that are accessible in the health care facility.</i></b></p> <ul style="list-style-type: none"> <li>• Functional, used, and clean WASH facilities that are lit, with locks (where appropriate), and segregated by gender.</li> </ul>

<ul style="list-style-type: none"> <li>• 1:4 for outpatients</li> <li>• 1:20 for inpatients</li> <li>• Toilets should be easy to clean, accessible for staff in PPE and patients with limited mobility</li> </ul>
<p><b><i>Number of litres of chlorinated water accessible in the health care facility per person per day</i></b></p> <ul style="list-style-type: none"> <li>• 100% all the time</li> <li>• Inpatients 40-60 l/p/day</li> <li>• Outpatients 5 l/consultation</li> <li>• See UNICEF and MSF cholera guidelines</li> </ul>
<ul style="list-style-type: none"> <li>• <b><i>Percentage of effective use of hand washing stations with chlorine solution in the health care facility at key times.</i></b></li> <li>• 100% all the times in the following:</li> <li>• Entering and departing the health care facility;</li> <li>• After defecation;</li> <li>• Before preparation and eating food;</li> <li>• After handling PPE;</li> <li>• After handling waste;</li> <li>• After attending to patients</li> </ul>
<p><b><i>Percentage of health facilities appropriately disposing of hazardous waste</i></b></p> <ul style="list-style-type: none"> <li>• 100% all the time <ul style="list-style-type: none"> <li>○ Colour-coded waste containers;</li> <li>○ Specific waste-disposal zone;</li> <li>○ Pit for sharps;</li> <li>○ De Montfort Incinerator for management of infectious waste.</li> </ul> </li> </ul>
<p><b><i>Percentage of laundry and surfaces in the health facility environment are kept clean.</i></b></p> <ul style="list-style-type: none"> <li>• 100% all the time</li> </ul>
<p><b><i>Percentage of health facilities with safe food preparation and storage</i></b></p> <ul style="list-style-type: none"> <li>• 100% all the time <ul style="list-style-type: none"> <li>○ Clean covered food containers;</li> <li>○ Separate storage of cooked and raw food.</li> </ul> </li> </ul>

**What else do I need to know?*****Water quality and quantity:***

When chlorine solutions are made on site for disinfecting purposes, it is likely that three water supply lines will be required, supplying potable drinking water, high strength and low strength solutions. The table below shows example uses and indicative quantities for the three water supplies based on the West African 2014 Ebola response setting.

<b><u>Chlorine strength</u></b>	<b><u>Uses</u></b>	<b><u>Indicative quantity</u></b>
High strength chlorine solution: 0.5%	Disinfection of surfaces; cleaning spills and body fluids; disinfection of PPE; footbaths; disinfection of corpse; washing of gloved hands; disinfection of reusable PPE; cleaning of excreta and vomit buckets; disinfection of solid waste bags; cleaning of plates and eating utensils.	200 l / bed / day
Low strength chlorine solution: 0.05%	Hand washing; laundry; discharge showers; disinfection of sensitive medical equipment; disinfection of laundry before washing.	150 l / bed / day
Drinking water: 0.2-0.5mg/l FRC	Drinking; staff and patient bathing; laundry; and rinsing reusable PPE such as heavy-duty gloves and goggles.	50 l / bed / day

**Chlorine concentrations, uses, and quantities - Ebola response**

The quantity of water required will depend on the size of the health care facility, the number of staff and the number of patients admitted. Depending on cleaning protocols in place, there may be a significant water demand for disinfection, cleaning and hand washing even with very few patients admitted. Water systems should be sized based on maximum use assumptions, with the need to increase capacity considered during design.

***Handling the remains of the dead***

The rapid burial of large numbers of human remains in mass graves following a crisis is often based on the false belief that they represent a public health risk if not buried or burned immediately. Human remains pose public health risks and require specific precautions in only a few special cases such as deaths from cholera or haemorrhagic fevers. To prevent the spread of disease, a trained burial team with PPE should take the lead on the preparation of a dead body. The preparation consists of the following: wearing specific protective equipment; disinfecting the body with chlorine solution; blocking body orifices; placing the deceased in a sealed body bag; and disinfecting the living environment of the deceased. The needs of the bereaved families must not be forgotten. (safe and dignified burials above).

***Personal Protective Equipment (PPE)***

Personal Protective Equipment is mandatory and key for compliance with the IPC protocols. The type of PPE required will depend on the nature of the disease and the level of staff exposure. PPE protocols should be standardised by a qualified IPC specialist based on national and international

standards. Different types of PPE will be required by different teams depending on the work carried out and the specific risks encountered - nurses carrying out patient care will have different requirements to cleaning staff for example.

Provision will be needed for cleaning and drying of re-usable PPE items, and the disposal of single-use items at appropriate locations.

### ***Waste management***

Segregate waste at the point of generation by the patient, right through to final disposal. As a minimum, segregate waste into four parts and in colour-coded containers in all rooms where wastes are generated:

- sharps;
- non-sharps infectious waste;
- non-sharps noninfectious waste; and
- hazardous waste

Train all staff in waste segregation and management. Assign and train designated personnel to collect and dispose of healthcare waste and ensure that they wear PPE. See Solid Waste Standard in WASH, health settings in Health, References Essential Environmental Health Standards in Health Care WHO 2008, and Safe Management of Wastes from Health-Care Settings, 2nd Edition WHO 2014.

### ***Disposal of excreta***

Excreta from the health facilities' toilets will need to be treated either onsite, or partly treated before being transported off site. In previous cholera responses, and West African 2014 Ebola response, lime based onsite treatment contained the risk.

### ***Decommissioning***

Consult the community, local authorities, and other actors to determine the most appropriate method to decommission a temporary health care facility during an outbreak response.

## 8. WASH and Nutrition-focused responses

Since the early 2010s, the WASH sector has recognised that WASH interventions can either affect Nutrition outcomes.

Undernutrition includes being underweight for one's age, dangerously thin for one's height (wasted), too short for one's age (stunted), and deficient in micronutrients. The determinants of undernutrition are complex and nutritional status is dependent on a wide range of factors. Determinants include:

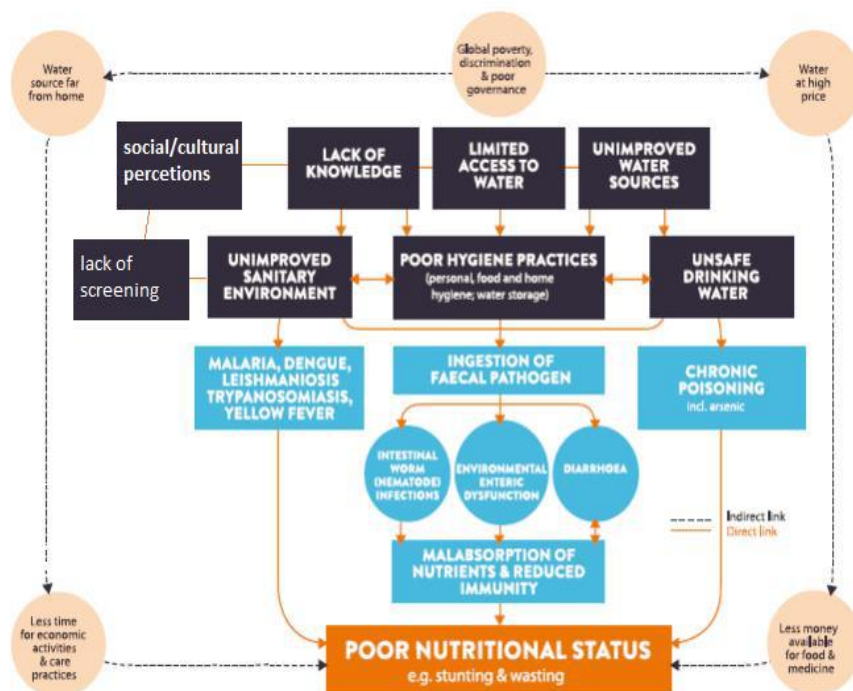
- food security;
- inappropriate care practices;
- poor access to health care; and
- an unhealthy environment, including adequate access to water, sanitation and hygiene.

All these factors result in increased vulnerability to shocks and long-term stresses. Inadequate WASH conditions facilitate ingestion of faecal pathogens. This leads to diarrhoea, intestinal worms and environmental enteric dysfunction, the three key pathways from poor WASH to undernutrition. 50% of undernourishment is associated with recurrent onsets of diarrhoea. This forms a 'vicious cycle' of recurring sickness and further deterioration of nutritional status.

It is critical to identify and understand the reasons for undernutrition in emergencies to design appropriate WASH interventions in support of a nutrition response. This will ensure resources available are put to strategic, timely and appropriate use. This standard integrates and aligns common goals across the WASH and nutrition sectors. The 1,000 days between a woman's pregnancy and her child's second birthday offer a unique window of opportunity to build healthier and more prosperous futures through WASH and nutrition working together. WASH and nutrition sectors should work in synergy and carry out joint analysis, planning, integrated programme components, same geographical areas targeting the same individuals, households, communities and joint monitoring and evaluation.

This standard should be read in conjunction with the Nutrition standards, all the other WASH standards, and the Health standards: communicable diseases and health settings. These standards are meant to apply during Nutrition-focussed responses or interventions. Note that the other WASH standards equally apply.

The following diagram illustrates the relationship between poor WASH and child undernutrition.



Source: Dangour et al (2013), adapted by Lapegue J., ACF (2014) "WASH and nutrition factsheet"

Source: Dangour et al (2013), adapted by Lapegue J., ACF (2014) 'WASH and nutrition factsheet'

<b>8. WASH and Nutrition 8.1: Community and household level</b>  <b>Risks of infectious diseases due to poor WASH conditions, that negatively impact nutritional status are reduced in an integrated and holistic way with the community.</b>
<b>Key action 1:</b> With Nutrition sector, map the key areas of concern – poor nutritional status and poor WASH status. <ul style="list-style-type: none"> <li>Determine the key factors in establishing and maintaining this poor status, and what the barriers to better behaviours are.</li> </ul>
<b>Key action 2:</b> With Nutrition colleagues work with the community to identify intervention options to remove those barriers (WASH minimum package).
<b>Key action 3:</b> Target interventions and maximise community engagement. <ul style="list-style-type: none"> <li>Ensure mothers and carers are involved in interventions to protect and promote their nutritional status, well-being, social status, decision-making and overall empowerment. as well as their ability to manage their time, resources, and assets</li> <li>Target young children with WASH interventions (Baby WASH) specifically designed to reduce faecal contamination of child’s play area and feeding environment. This interrupts the key faecal-oral vectors of babies’ hands and hands-to-mouth activity.</li> </ul>
<b>Key action 4:</b> Collaborate and engage with community outreach workers to facilitate a multisector approach between WASH, nutrition and health sectors. <ul style="list-style-type: none"> <li>Ensure this does not create a greater burden on the community groups, but also prevent silos of many parallel community groups engaging with households at different times</li> <li>Increase their capacity in multiple sectors and ensure that they are trained in the identification of GAM (including MUAC) and are aware of the referral protocols.</li> </ul>
<b>Key action 5:</b> Adapt interventions based on feedback from the community and on the monitoring of the WASH and the nutritional status in the community.
<b>Key indicators</b>
<i>Percentage of mothers/caretakers that dispose of their babies/infant’s excreta appropriately and safely.</i> <ul style="list-style-type: none"> <li>100%</li> </ul>
<i>Percentage of affected households with no visible faeces (animal or human) in the compound/yard/children’s play area.</i> <ul style="list-style-type: none"> <li>100%</li> </ul>
<i>Percentage of affected households where primary caregiver can cite critical times for handwashing with water and soap (or alternative)</i>



<ul style="list-style-type: none"> <li>• 100% citation of least three of the five critical handwashing times important for a primary caregiver: <ul style="list-style-type: none"> <li>○ prior to breastfeeding, preparation and cooking of food, and feeding children</li> <li>○ after defecation and wiping children's bottom</li> </ul> </li> <li>• 100% citation of least three of the five critical handwashing times important for a primary caregiver: <ul style="list-style-type: none"> <li>○ prior to breastfeeding, preparation and cooking of food, and feeding children</li> <li>• after defecation and wiping children's bottom</li> </ul> </li> </ul>
<p><b><i>Percentage of affected households who safely prepare and store children's food.</i></b></p> <ul style="list-style-type: none"> <li>• 100%</li> <li>• Clean covered food containers</li> <li>• Separate storage of cooked and raw food</li> </ul>
<p><b><i>Percentage of affected households with the knowledge of at least one household water treatment method</i></b></p> <ul style="list-style-type: none"> <li>• 100%</li> </ul>
<p><b><i>Percentage of affected households who store their drinking water safely</i></b></p> <ul style="list-style-type: none"> <li>• 100%</li> <li>• Two water containers per household (1 for collection, and 1 for storage)</li> </ul>
<p><b><i>Percentage of affected households with safe drinking water at point of use</i></b></p> <ul style="list-style-type: none"> <li>• 100%</li> <li>• &lt; 10 CFU / 100 ml E Coli</li> <li>• &gt;= 0.2 mg/l FRC / 100 ml</li> </ul>
<p><b><i>Number of litres of safe water per person per day (l/p/day) accessible for drinking, domestic and personal hygiene</i></b></p> <ul style="list-style-type: none"> <li>• 15 l/p/day</li> <li>• Quantity of water provided should be based on cultural and social norms, the context, phase of response and in coordination with National and/or Cluster members</li> </ul>
<p><b><i>% of affected population that have hygiene items suitable for their priority needs</i></b></p> <ul style="list-style-type: none"> <li>• 100%</li> </ul>
<p><b>What else do I need to know?</b></p> <p><b><i>Integration, coordination and representation</i></b></p>

It is critical to ensure that WASH, nutrition and health staff coordinate, plan, implement and monitor their efforts when responding to a WASH-nutritional crisis. Issue-specific coordination meetings should be multisector and include WASH, nutrition and health personnel from local ministries, NGOs and the respective clusters, where appropriate.

### ***Targeting***

WASH and nutrition integrated projects should be focussed on the areas facing the highest prevalence of undernutrition and where limited access to safe drinking water, sanitation facilities and poor hygiene practices are known underlying causes of poor nutritional status. Special attention should be given to children, pregnant and lactating women and caretakers in relation with the '1,000-day window of opportunity'; as the prevention of undernutrition during this period is critical.

### ***Faecal-oral transmission***

The essential goal of WASH interventions for children under five years old is to interrupt the key faecal-oral vectors of babies' hands and hand-to-mouth activity paying attention to animal faeces as well as human faeces. This is a more specific, age-targeted approach, which does not replace household WASH interventions but complements them with more targeted interventions for very young children.

### ***WASH minimum package***

A WASH-nutrition strategy calls for ensuring and reinforcing the principles of a WASH minimum package both in health and nutrition centres, and at the household level in communities affected by undernutrition. This package should be adapted to the context, social and cultural norms, plus look to utilise the local market. This package should not be confused with a WASH kit, but rather it is about providing a holistic WASH approach (hardware and software) through access and use of water and sanitation infrastructure, and practice of healthy behaviours.

### ***Breast feeding***

Breast milk is a hygienic substance that provides all the liquid and food infant needs up to the age of six months (if there is no complication, and the child "feeds on demand"). Mother/care-givers hygiene (hand washing with soap) before breast feeding is key. See FSN 2.

### ***Food hygiene education***

Household food hygiene plays a vital role in ensuring good health and nutrition outcomes, especially for children under 5. Five key steps for safe food include i) Food preparation areas, hands, surfaces and utensils are kept clean, ii) separation of raw and cooked food, iii) food is cooked thoroughly, iv) food stuffs are kept at safe temperatures, and v) use safe water and raw materials. See also Nutrition chapter: Food assistance standard 5: Food use - storage, prevention and consumption of food is safe and appropriate at both household and community levels.

### ***Reducing animal waste contamination***

Effective practices are also essential with animals. Interventions focussing on containing animals and prevention of exposure to children's hands to faecal bacteria (animal and human) from contaminated floors and yard soil are just as important as hand washing and water treatment. Evidence shows that a high microbial load for faecal-oral transmission in children is found in ingestion of soil and chicken faeces. Appropriate confinement with designated areas and fencing of animals and poultry can diminish the opportunities for contamination.

**Community outreach workers**

Community outreach workers – range from community hygiene workers, community hygiene promoters, community hygiene mobilisers. The terms depend on the context, and national systems.

An integrated strategy ideally should work with a single set of community outreach workers with the knowledge and skills across multiple sectors – rather than have a set per sector. If this is not practical due to national structures, existing burden on the outreach workers – then ensure they are all trained on key topics from each sector, and understand ways where seamless integration can happen. For instance, one can carry out a joint analysis of barriers to creative optimal behavioural messages covering essential, health seeking behaviours, infant and young child feeding, plus utilise a variety of contact points such as water points, community meetings, health care facilities, nutritional feeding centres, care groups, schools, lunch meetings etc.

**Anthropological approach**

An anthropological study is a very useful way to increase understanding of social and cultural determinants in the population and helps integration by providing a more comprehensive approach. For example, a study carried out in Chad and Cameroon showed that men's opinion on the taste of water had a great influence on the type of and use of water treatment at the household. Issues like this should be taken into account when designing your programme.

**Water quality monitoring**

Measurement of safe drinking water at the source, and at the point of use is critically important. The measurement should ensure that the affected can access safe drinking water. Determine the appropriate staff, resources and data management required to ensure water quality monitoring robustly informs the effectiveness of access to potable water, uptake of HTWT and household safe water chain practices.

**Baby WASH**

WASH-nutrition interventions should interrupt the primary vectors of faecal-oral transmission in children in their first 2 years of their life, which is the critical window for prevention of stunting, anaemia and poor child development. It is important to address the important vectors of soil, poultry faeces, and infant foods, and rather providing a clean, safe play and infant feeding environment.

Baby WASH is a more specific, age targeted approach, which does not replace general household WASH interventions. Instead it complements them with more targeted interventions for very young children, including infant food hygiene, management of animal waste, safe disposal of child faeces, and hygienic play areas. Baby WASH messages in summary:

- Safely dispose of human and animal faeces.
- Wash hands with soap after faecal contact and before preparing food, eating food or feeding children.
- Give children (after 6 months of exclusive breastfeeding) only drinking water that has been treated with an appropriate household water treatment method.
- Freshly prepare children's food, or reheat to boiling prior to feeding.
- Protect children from ingesting soil and animal faeces.

<b>WASH and Nutrition 8.2: WASH in Nutrition centres</b>
<b>Staff, and in and out patients in nutrition centres have access to safely managed WASH facilities and services, and supporting hygiene items.</b>
<b>Key action 1:</b> Ensure that complementary feeding centres, out-patient treatment centres and health facilities running in-patient nutrition programmes all have adequate WASH facilities.
<b>Key action 2:</b> Undertake targeted hygiene promotion programs in the centres.
<b>Key action 3:</b> Ensure that all carers leaving the facilities with children released from in and/or out-patient are able to continue good hygiene behaviours on returning home.
<b>Key action 4:</b> Ensure that staff, patients and their caregivers at the nutrition centre are aware of the links between WASH and nutrition, and have the knowledge and items to mitigate these risks through safe and healthy behaviour.
<b>Key indicators</b>
<i>Number of targeted nutritional centres reporting collaboration between nutrition and WASH programmes.</i>
<i>Percentage of nutritional centres with residual chlorine measured in drinking water.</i> <ul style="list-style-type: none"> <li>• 100%</li> <li>• 1 mg/l FRC at source</li> <li>• 0.5 mg/l FRC at point of use</li> </ul>
<i>Number of excreta disposal facilities that are accessible in the nutritional centre.</i> <ul style="list-style-type: none"> <li>• 100%</li> <li>• Separate toilets for patients + staff</li> <li>• Outpatient – a min of 4 (separated by gender)</li> <li>• Inpatient – 20 / toilet</li> </ul>
<i>Number of litres of chlorination water accessible in the nutritional centre.</i> <ul style="list-style-type: none"> <li>• Outpatient – 5 l/p/day</li> <li>• Inpatient – 40 l/p/day</li> </ul>
<i>Percentage of effective use of hand washing stations in the nutritional centre at key times.</i> <ul style="list-style-type: none"> <li>• 100%</li> </ul>

<p><b><i>Percentage of nutritional centres appropriately disposing of waste (hazardous and non-hazardous).</i></b></p> <ul style="list-style-type: none"> <li>• 100%</li> </ul>
<p><b><i>Percentage of nutritional centres with safe food preparation and storage.</i></b></p> <ul style="list-style-type: none"> <li>• 100%</li> <li>• Clean and covered containers</li> <li>• Separate storage of cooked and raw food</li> </ul>
<p><b><i>Percentage of SAM patients admitted who have received a WASH kit once awareness-raising of the 'caretaker / malnourished child' couple has been conducted</i></b></p> <ul style="list-style-type: none"> <li>• 100%</li> </ul>
<p><b>What else I should know?</b></p> <p><b><i>WASH minimum package:</i></b></p> <p>The WASH minimum package should depend on the structure and function of the nutrition centre – in-patient, out-patient, and a mobile clinic. The actions where needs are greatest should be prioritised ranging from access to safe drinking water, food hygiene, hand washing, Information Education and Communication materials, solid waste management, and containment of excreta.</p>

## References

1. [https://www.humanitarianresponse.info/system/files/documents/files/wash\\_in\\_nut\\_strategy\\_eng\\_brochure\\_wcar\\_wash\\_group.pdf](https://www.humanitarianresponse.info/system/files/documents/files/wash_in_nut_strategy_eng_brochure_wcar_wash_group.pdf)
2. <https://www.actionagainsthunger.org.uk/publication/wash%E2%80%99nutrition-2017-guidebook>