

Managing Water, Sanitation and Hygiene in Emergencies

Guidebook for LGUs

This guidebook is prepared by:



With support from:





Front Page Photo by: UNICEF and Philippine WaSH Cluster

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Introduction to the Guidebook

1.1 Background

Philippine Government released its National Disaster Response Plan (NDRP) in June 2014, making it the official document for all government agencies to use in times of disaster. The plan considers at least 13 types of disasters, including hydro-meteorological hazards[1] such as floods, typhoons, storm surges, tornados, and landslide due to heavy rain. It provides guidance to the eight (8) Response Clusters[2] on the three (3) disaster phases (pre-disaster, during disaster and post disaster). The Department of Social Welfare and Development (DSWD) serves as the overall lead for the 8 clusters, while the Department of Health (DOH) leads the Health Cluster, where Water, Sanitation and Hygiene (WaSH) cluster has been subsumed.

As stated in the NDRP, the WaSH Cluster is seen to provide "leadership in coordinating water, sanitation and hygiene programs designed to minimize public health risks among affected men, women, children, persons with disabilities and other marginalized groups". The WaSH cluster complements the local government effort in reducing WaSH-related morbidity, mortality, and disabilities during emergencies and disasters. This complementation is demonstrated in three ways: (a) provision of safe drinking water; (b) provision of temporary and semi-permanent sanitation facilities; and (c) hygiene promotion.

The WaSH Cluster also benefits from the direction and support of the Strategic Advisory Group (SAG). This is led by the DOH's National Disease Prevention and Control Bureau (NDPCB) and Health Emergency Management Bureau (HEMB) with members coming from the UNICEF, Philippine Red Cross, Catholic Relief Services, Plan International, A Single Drop for Safe Water, Save the Children, Oxfam-GB, and Action Against Hunger. The full list of WaSH Cluster members is attached as Annex 1.

This Guidebook is a product of the **WaSH Cluster collaboration**.

1 Other types of disasters are earthquake and landslides due to earthquake, tsunami, volcanic eruption, epidemic outbreak, civil disturbance and armed conflict, drought and pest infestation, nuclear, and fire, maritime, transportation and pollution hazards.
2 The 8 clusters are: (1) Food and Non-Food Items; (2) WaSH, Medical and Public Health, Nutrition, Mental Health and Psychosocial Support; (3) Camp Coordination, Management and Protection; (4) Logistics; (5) Emergency Telecommunications; (6) Education; (7) Search, Rescue and Retrieval; and (8) Management of Dead and Mission.

1.2 Importance of WaSH in Emergencies

In the last 10 years, the Philippines has had its share of emergencies, triggered by natural and man-made disasters. These disasters ranged from typhoon, flooding, volcanic eruption, flooding, earthquake, and displacement (see box below) which claimed lives and destroyed houses, buildings and basic infrastructures.

In localities severely hit by disasters, water and sanitation facilities were inevitably damaged and WaSH services degraded. Water supply was low and the quality was compromised. More people had to queue in water distribution lines or they had to walk farther to get their supply for drinking and cooking. The shortage of sanitation facilities meant people had to wait longer for their turn to use the toilet and take a bath. In some cases, people also had to forego some of hygienic practices due to absence of basic items such as soap, toothpaste, and other sanitary items.

To increase the people's chances of survival and to reduce public health risks following a disaster, it is critical to provide WaSH services and facilities effectively. DOH defines WaSH in emergencies as "strategies, interventions and concerns related to water supply, sanitation, vector control, waste management and hygiene promotion to minimize morbidities, mortalities, and disabilities in times of emergencies and disasters" (Department of Health).

WaSH interventions – such as improving the quality and accessibility of water supply, repairing or building sanitation facilities, keeping the camp/shelter environment free from waste and standing water, providing people with hygiene materials, and reducing their contact to vectors – will reduce cases of faecal-oral diseases and exposure to disease-bearing vectors. Delivering WaSH interventions immediately and to the most vulnerable groups will also reduce needless deaths.

Emergencies Timeline, 2006-2015

- 2006 – Typhoon Durian (Reming)
- 2008 – Typhoon Fengshen (Frank) and Widespread Displacement (failure of Memorandum of Agreement on Ancestral Domain)
- 2009- Typhoons Ketsana, Parma and Mirinae; and Mayon Volcano Eruption
- 2010 – Typhoon Juan
- 2011 – Typhoons Nalgae-Nesat (Pedring-Quiel) and Washi (Sendong)
- 2012 – Monsoon Flooding and Typhoon Bopha (Pablo)
- 2013 – Zamboanga Siege, Bohol Earthquake and Typhoon Haiyan (Yolanda)
- 2014 – Typhoon Hagupit (Ruby)
- 2015 – Maguindanao Displacement

1.3 Objectives and Target Audience

The Guidebook on WaSH in Emergencies is intended to provide the disaster-affected local government units (LGUs) a reference material to refer to during emergencies, enabling them to manage a WaSH Response Program aimed at reducing the public health risk effectively.

This guidebook is an accompaniment to Managing WaSH in Emergencies, a training program developed and facilitated by members of the WaSH Cluster. The Cluster started implementing this training in September 2013, with the initial support from Red-R Australia. As of June 2015, there have been 9 training batches, benefiting more than 300 participants from disaster-affected LGUs.

Therefore, the target users of this guidebook are the representatives from the municipal and provincial LGUs:

- Health Office
- Planning and Development Office
- Social Services and Welfare Office
- Local Government Operations Office
- Local Disaster Risk Reduction and Management Office/Council
- Sanitary Inspector
- Sanitary Engineer

1.4 Structure and Contents of the Guidebook

The first three (3) chapters of the Guidebook introduce the WaSH concepts and the roles, responsibilities and coordination protocols between the LGUs, WaSH Cluster and other humanitarian agencies present in the affected localities.

The next two chapters focus on the Assessment of Needs (Chapter 4), Analysis to Determine the Highest Public Health Risk and the Response Options (Chapter 5). The last two chapters are on Social Inclusion (Chapter 6, although some information are also integrated the previous chapter) and Monitoring and Evaluation (Chapter 7).

What is WaSH in Emergencies?

2.1 What is WaSH?

WaSH stands for Water, Sanitation and Hygiene. The following are the concerns of WaSH in emergencies.

- **Water Supply** aims to provide disaster-affected people with safe and adequate water for drinking, cooking, domestic and personal hygiene (DOH and Sphere1). Water supply also includes water quality monitoring and treatment, provision of water storage facilities, development and protection of water sources.
- **Sanitation** aims to provide access to safe means of excreta disposal and appropriate access to bathing facilities (DOH). In particular, people are provided with toilets that are adequate in number and acceptable to the local context (Sphere).
- **Vector Control** aims to reduce, if not prevent, people from contracting diseases through exposure to nuisance vectors (DOH and Sphere). This is done by reducing vector-breeding sites and providing people with knowledge and means to protect themselves.
- **Solid Waste Management** aims to provide the people with an environment free from solid and other wastes through proper segregation, storage, collection, and disposal (DOH). They are given the means to dispose of these wastes conveniently and effectively (Sphere).
- **Drainage** aims to minimize health and other risks posed by water erosion and standing water of different kinds through provision appropriate drainage near dwelling areas and water distribution points (Sphere).
- **Hygiene Promotion** aims to promote good personal hygiene in order to protect health, improve health condition, promote dignity of living or enhance the quality of life, and protect the environment (DOH and Sphere).

2.2 What are the Characteristics of an Emergency?

Emergency is defined as an actual threat to public safety and/or health (DOH-HEMS). It is an incident that requires an immediate action, otherwise the situation or impact can turn to worse.

1 Sphere Project, initiated in 1997, developed a set of universal minimum standards in core areas of humanitarian response. These standards aim to improve the quality of humanitarian response in situations of disaster and conflict and enhance the accountability of the humanitarian system to disaster-affected people.

Emergency has three basic features. First, the **onset** – emergency can be rapid, happening in an instant and without warning like earthquake, flood or volcanic eruption) or it can be slow, taking time to manifest like drought or massive loss of crops. Emergency can be characterized by its **impact** – such as small-scale where damages are confined to small area/population or large-scale where damages are massive and extend to several provinces/regions (i.e. Yolanda). The third feature is its **phase**, further sub-divided into four: lifesaving (between the first 72 hours up to the 3rd month), early recovery (between the 3rd to the 6th months), rehabilitation and construction (between the 6th month to 1 year), and development (beyond the 1st year).

2.3 Why WaSH is Important in Emergencies

The **main purpose of WaSH in emergencies is to prevent diseases** – i.e. stopping the transmission of faecal-oral diseases and reducing the exposure of affected people to vector borne and water-borne diseases.

According to the World Health Organization (2004), WaSH interventions played a considerable role in reducing diarrhea morbidity in emergency situations. Specifically, improved sanitation (proper excreta disposal) reduced the cases of diarrhea by 37%, handwashing at critical times by 35%, improved water supply by 21% and improved drinking water quality by 45%. In the Philippines, the success of WaSH interventions on reducing diarrhea was repeatedly validated in the emergency response on Central Mindanao displacement (2008), Typhoon Pablo (2012) and Zamboanga City siege (2013).

The F-diagram (please refer to next page) shows best how WaSH interventions can prevent people from getting sick. Pathogens (disease-causing micro-organisms) travel from faeces to the next host/person through fingers, flies, fields and fluids. Floodwater contaminated by vector urine (i.e. rats) may also cause disease when it comes in contact with a person's skin. WaSH interventions constitute two levels of barriers to stop the transmission of pathogens:

- **1st Level (primary barrier)**
  i. Water – by protecting the water source so people can drink safe water.
  ii. Sanitation – by building sanitation facilities that are at least 25 meters away (based on the Sanitation Code Implementation Rules and Regulations) from water sources; and by appropriately covering or disposing of faeces through the provision of toilet
  iii. Hygiene – by washing hands after defecation

- **2nd Level (secondary barrier)**
  i. Water – by treating, transporting and storing water safely
  ii. Sanitation – by controlling flies from touching food
  iii. Hygiene – by peeling and washing food, by washing hands before eating or preparing food, by covering food, and by storing and cooking food carefully.

Moreover, other WaSH-related interventions include drainage by controlling runoff and standing water; solid waste management by effectively disposing of trash; and vector control by reducing the population or preventing rats, mosquitoes and other insects or preventing them from infecting the population.

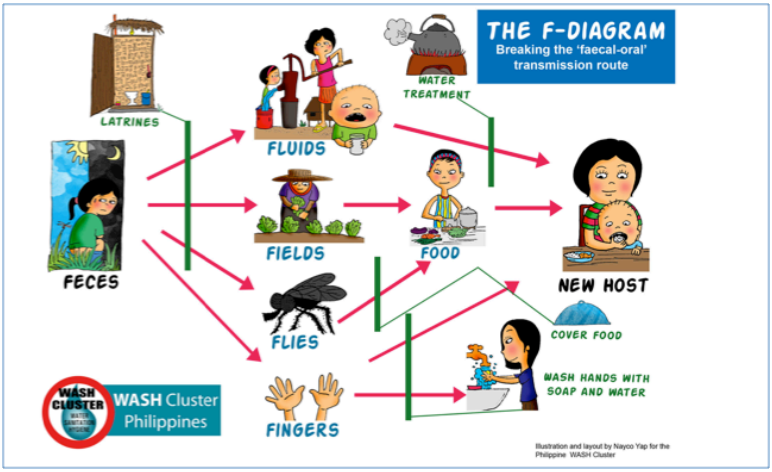


Figure 1: F-Diagram (by N. Yap for Philippine WaSH Cluster)

Roles, Responsibilities and Coordination

There are various organizations/groups involved in WaSH during emergencies, starting from the national level down to the communities.

First, the **local government units (LGUs) and the national government** are the duty bearers, mandated by law to provide WaSH services. The LGUs are the first responders during emergencies, as stated in Section 15 – Coordination During Emergencies of the Republic Act 10121 (Philippine Disaster Risk Reduction and Management Act). LGUs are also tasked to coordinate other humanitarian concerns such as camp management, livelihood, shelter and other health needs. Moreover, the LGUs lead the conduct of assessment activities, and report the information gathered to the provincial and national government – elevating the needs/issues, recommendations and progress.

At the national level, there are different agencies involved in WaSH, among these are DOH for the sanitation and water quality, Department of Interior and Local Government (DILG) for the WaSH governance; Department of Public Works and Highways (DPWH) for the water supply. Part of their activities is to directly implement or coordinate with LGUs programs and projects on WaSH.

Second, the **WaSH Cluster**, institutionalized by the NDCC Circular No. 5 series of 2007. Cluster is an approach adopted by the Philippines to align with the rest of the world in providing effective humanitarian action. WaSH cluster is one of the four clusters under the umbrella of Health Cluster, with the DOH as the lead government agency and UNICEF as its partner. In general, the WaSH cluster develops operational strategies, establishes reliable systems for effective implementation and continuous improvement, ensures access to WaSH services, builds and strengthens the capacity of the regional and local WaSH clusters, and establishes coordination, collaboration and networking within and among clusters. The WaSH cluster has counterparts at the regional and provincial levels.

Third, the **humanitarian Non-Government Organizations (NGOs)**, such as the organizations under the United Nations System, World Health Organization, Action Against Hunger, Oxfam-GB, Plan International, Save the Children, A Single Drop for Safe Water, Philippine Red Cross, and Catholic Relief Services. They provide response because it is part of their organizational mandates. The range and length of their response arise from assessment activities they pursued individually or jointly with other organizations. Their response is also defined by their resources and capacities – budget, network and materials they can mobilize, and the expertise and number of people they can field. At the global level, the Sphere Project is one of the important contributions of humanitarian

NGOs, which highlighted the best practices in humanitarian response. The project came up with minimum standards to ensure the right to life with dignity and right to assistance of people affected by emergencies.

Fourth, the **community**– the claim holders or rights holders. Each person has the right to sufficient, safe, acceptable, physically accessible and affordable water and sanitation facilities and services for personal and domestic use. This right needs to be protected and upheld, especially for the most vulnerable groups (children, pregnant women, elderly and the indigenous peoples), in development and more importantly, in emergency situations.

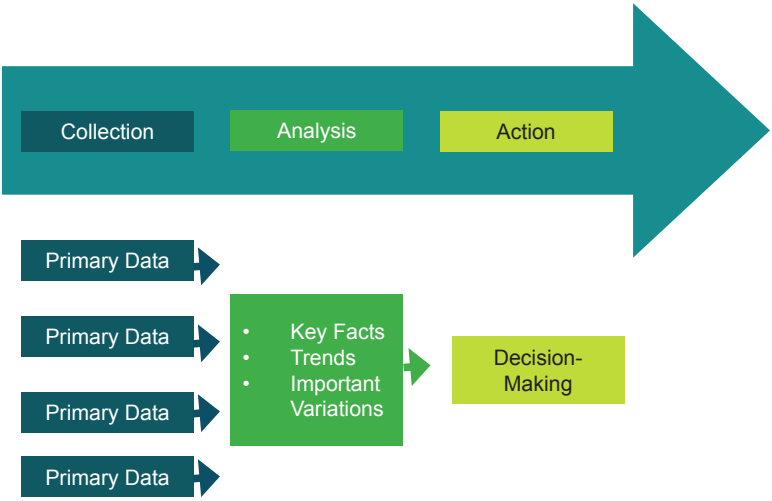


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Assessment

4.1 Definition and Purpose of Assessment

Assessment is the process of (a) gathering information to determine the needs of the affected populations and (b) understanding the context, which then feeds into analysis, planning and execution. As a data collection activity, assessment provides the LGUs or humanitarian agencies a strong basis for an informed decision-making. In a document by International Committee of the Red Cross, the purpose of an assessment is not to identify an intervention but to find out whether an intervention is needed or not (IFRC, 2008).



4.2 Types and Purpose of Assessment

4.2.1 Rapid Assessment

Rapid Assessment is done within two (2) days after the disaster/event or as soon as people can be fielded on the ground. The Assessment Team determines the scale of needs as well as the capacity already in place (referring to the government and non-government organizations already responding in the areas). The main purpose of the Rapid Assessment is to identify the initial lifesaving activities (i.e. water, medicines and food). The information is then analyzed to determine the "broad strokes" response plans and budget.

Since this is "rapid", the Assessment Team has only a short window to collect, analyze, plan and then immediately dispense life-saving interventions. It is expected that some of the data might not be complete or updated, because of lack of time to verify data or cover large grounds. Rapid Assessment data is the least accurate as it is used to identify only the critical areas. Increasing accuracy requires more time, which in turn, will delay the response and reduce the lifesaving impact. It is important to remember that the immediate aftermath of the disaster is where public health risk is at its highest point.

4.2.2 Situational Assessment

Situational assessment is the in-depth assessment of the response and the general context, allowing the Assessment Team or responding organizations to adjust their plan to meet the changing situation. It also refers to the assessment of new areas, situations or socio-economic groups flagged by the organization, WaSH Cluster and others.

It is helpful to have background information on the affected community/locality's situation prior to the disaster event. This helps the Team separate the existing chronic conditions from the effects of the disaster event. Additionally, the focus of the assessment is also shaped by the Team's organizational mandate, i.e. specific sector where it has experience or available resources to provide.

4.2.3 Technical Assessment

Technical Assessment determines if the data or findings of the Rapid Assessment are still valid. For instance, the Technical Assessment Team checks whether the priorities that were earlier identified have been met effectively.

The information gathered during Technical Assessment becomes the basis for the actual implementation planning. More details will emerge on the distribution numbers, areas and goods, and other response activities. The Team gains deeper understanding of the context to make the implementation effective and does not cause other negative issues within the impacted community.

An assessment can be undertaken by a single team coming from one organization, or several teams representing different humanitarian agencies (thus called a joint assessment). As a mechanism, **joint assessment** is the ideal way to do the assessment because it allows the maximization of expertise, time and other resources.

4.3 Classification of Assessment Data

The value of assessment is linked to the quality of information gathered. Obtaining quality data starts from understanding why specific data is needed in the first place. Data must be relevant, verifiable and possibly the latest. Data collected must not be taken out of context as it is part and parcel of the situation/ environment where it transpired. Data gives more meaning if it is interpreted against the backdrop of local politics, geography, gender-related issues, culture and the condition prior to the disaster event. Third, it is also important to acknowledge that the sources of data may have their own agenda or biases. The data collecting activity must always be guided with the following questions:

- What can my organization actually do (based on our mandate and our resources)?
- Should we do rapid assessment or be more detailed in getting technical data for accuracy?
- Are we gathering data for lifesaving purpose or for longer-term improvement?

4.3.1 Types of Data

Assessment data comes in two types: quantitative and qualitative. **Quantitative** data measures the level of occurrence while **qualitative** data provides depth of understanding. Typically, the quantitative data is expressed in numerical form (i.e. age, cost, length, height, area, volume, weight, speed, time, and temperature) while qualitative data is not precisely measurable such as relationships and behavior. Refer to their differences as shown in the table below.

Quantitative	Qualitative
Measures level of occurence	**Provides depth of understanding**
Asks "how many" and "how often"	Asks "why" and "how"
Studies action	Studies motivations
Is objective	Is subjective
Provides Proof	Enables discovery
Is definitive	Is exploratory
Measures levels of action, trends and disease patterns	Allows insight into behavior, trends and beliefs
Describes	Interprets
Can be participatory but will then not be scientific	Often participatory
Always measurable	Can be measurable but needs to be converted

4.3.2 Sources of Data

Data can also be differentiated as primary and secondary. **Primary data** is data never gathered before. It is data obtained to suit the purpose of the assessment. It is often costly and time consuming. It is gathered by directly communicating with the target respondents or by observing them (no interaction). Examples of data collection methods are:

- **Focus Group Discussions or Focal Group Dialogue**. This is an interaction with a group of 6 to 12 people, sharing similar status, background or experience. A facilitator moderates the discussion based on a set of open-ended guide questions. The session lasts between 4 to 6 hours, or shorter.
- **Key Informant Interview.** If seeking more in-depth information, there is a need to talk to a person who has specialized knowledge or has authority over a certain subject. Key informant interviews are typically one-on-one, face-to-face meeting between the Assessment Team (interviewer) and the key informant (interviewee).
- **Ocular Inspection**. To inspect/visit a certain site or facility, it is useful to have a checklist in observing a situation, a facility, a relationship, or behavior.
- **Tools as Guide**. There are ready-made data gathering tools prepared by other organizations which can be used immediately by the Assessment Team. For instance, the Department of Health has prescribed specific tools to be used for emergencies (this way, it is also easier to collate and summarize raw data if there are several sites affected).

Target respondents (sources) of primary data are:

- **Local authorities** (e.g. barangay and municipal officials, officers of WATSAN, barangay health workers)
- **Representatives of the affected population and the affected population itself** (household heads, women, children/teens, indigenous peoples)
- **Other government agencies and humanitarian NGOs** that have presence in the area
- **Camp/community inspections**, such as sniffing the latrine or waste disposal area for foul smell.

Secondary data is data already gathered, not new or considered second hand. It is gathered by another agency or coming from another source. If it is already available, therefore, there is less or no cost to the Assessment Team. However, the data may not be fully suited to the Assessment and may require some validation.

The sources of secondary data are:

- LGU data (census/population data, Health Office Data, Municipal/City Disaster Risk Reduction and Management Office)
- Camp Management
- Barangay Government

- Press: newspaper reports, radio and TV
- Other government agencies and NGOs

4.4 Fundamental Questions to Ask in Assessment

4.4.1 On Water

- **Is the water available sufficient for the population?** For survival needs, the water intake (drinking and food) should be between 2.5 to 3 liters per person; for basic hygiene practices, it should be another 2 to 6 liters (depending on the social and cultural norms), and the basic cooking needs should be between 3 – 6 liters (depends on the food type and social and cultural norms). Combined, the average water use for drinking, cooking and personal hygiene in a camp/evacuation camp should be 15 liters per person per day for the first week. The volume is expected to increase if their stay in these camps is prolonged.
- **Is the water safe for drinking and personal use?** Prior to tapping a certain water source, it is good to check on the quality of the water by doing some test. Water needs to be clear, palatable and free from any forms of contaminant (fecal coliform, inorganic chemicals, and other forms of pollutants).
- **Is the water accessible?** The distance from any shelter to the nearest water point should be not more than 500 meters. Further, the ratio of people per tap should be 250 (based on the flow rate of 7.5 liters per minute), 500 people per hand pump (based on the flow rate of 17 liters per minute), and 500 people per single-use open well (based on the flow rate 12.5 liters per minute). If people queue for water, the time should be not more than 15 minutes and it should not take more than 3 minutes to fill a 20-liter container. Finally, water needs to be available consistently and on a regular basis.

4.4.2 On Sanitation

- **Is the sanitation facility contained and isolated from the water supply, fields and flies?** The sanitation facility should be at least 25 meters from the water source and fields where crops are planted. If on extreme situations where no sanitation facility is available, the faeces should be covered at least with soil and other appropriate indigenous materials.
- **Is it safe, accessible and dignified?** The toilet/latrine should be at least 50 meters away from the dwellings. There should be separate toilets for women and men, and these should be cleaned and properly maintained. There should be locks on the door, and lights on the pathway leading to the toilets. Sphere Standards proposes 1 toilet seat for every 20 persons as a key indicator.

4.4.3 On Hygiene

- **Are the basic behaviors present?** Do people wash their hands at critical times (after defecating, before handling foods, before eating, after cleaning a child who has defecated? Do they cover their food, use clean utensils, and take a bath?

- **Do they have access to hygiene supplies?** The basic hygiene items include 10-20 liter capacity water container for transport and another one for storage, 250 grams of bathing soap per person per month, 200 grams of laundry soap per person per month, and acceptable material (i.e. cloth or disposable napkins) for menstrual hygiene. Additional supplies may include (on a per person per month basis) are 50 or 100 ml toothpaste, 1 toothbrush, 250 ml shampoo, 250 ml lotion for infants and children up to 2 years of age, 1 disposable razor, underwear for women and girls of menstrual age, one hairbrush and/or comb, nail clippers, diapers, and potties (depends on household need).

4.4.4 On Waste Management

- **Is waste controlled and disposed of safely?** There is a need to check if the people are practicing waste segregation, and if so, if there are trash bins provided in their areas. These bins should be not more than 15 meters from the dwellings. There should be a Refuse Collection Team organized among the evacuees. If there are too many people in the camps, daily collection of refuse should be done.

4.4.5 On Vector Management

- **Are vectors present and what can be done to minimize/prevent these?** There is a need to check if there have been of people getting sick from vector-borne diseases. Further, observe if people are using traps and screens to cover their food or if they are using chemical methods to control the population of disease-carrying insects and rodents, or if they are maintaining cleanliness in their immediate areas.

4.4.6 On Drainage

- **Is there standing water near the dwelling areas and water distribution points?** There is a need to check if there is drainage problem, and are there appropriate tools, which people/evacuees can use to do some simple drainage works and maintenance. It is important to check if there is stagnant water/water pooling near washing and bathing areas.
- **Is there environmental runoff?** Is there floodwater, storm water, domestic water?

4.4.7 On Governance

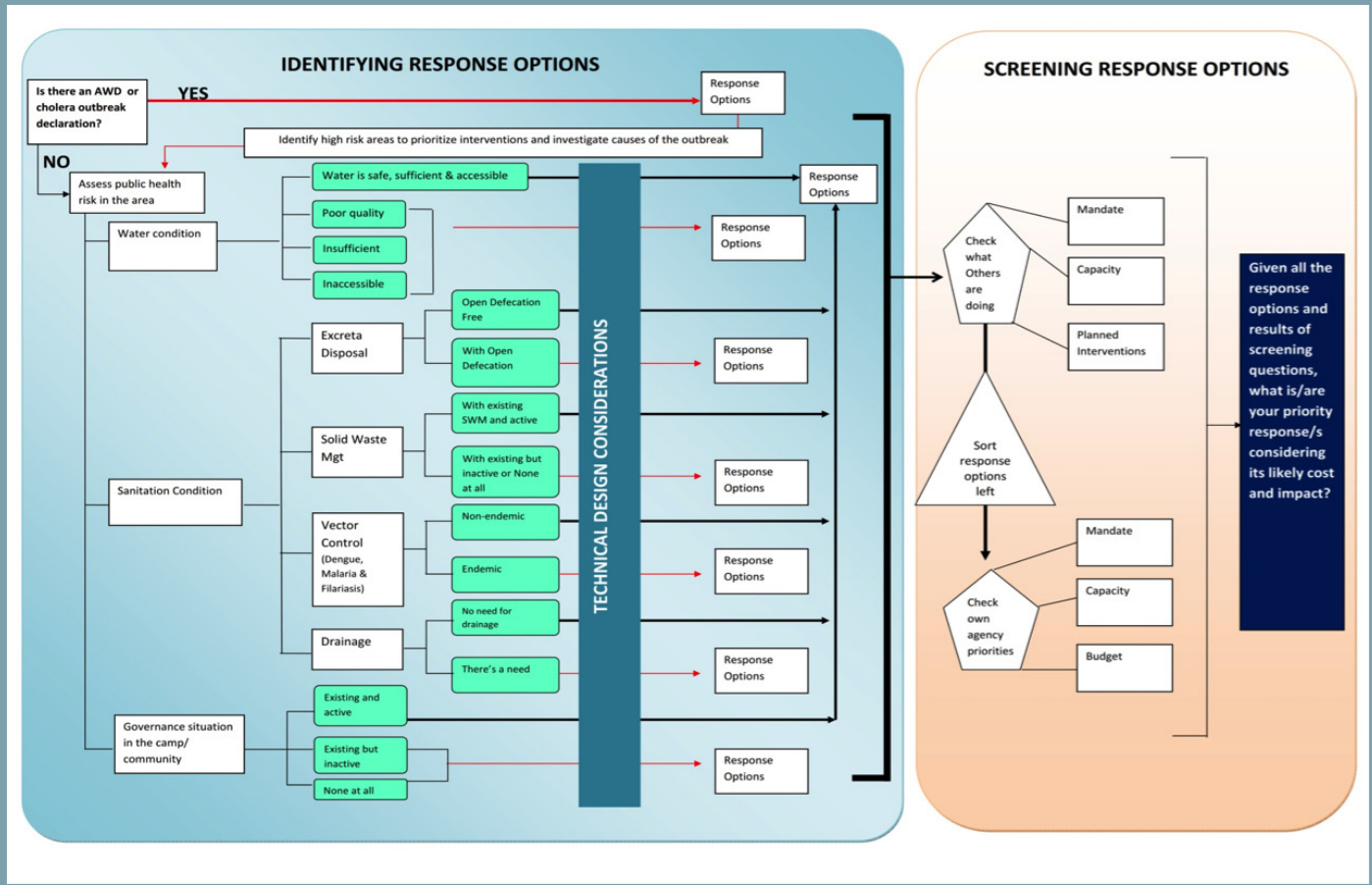
- **What structures can we use, strengthen or need to build to provide sustainable WaSH Services?** There is a need to check if the LGU at the barangay level has functional WaSH Teams or related groups, which can be tapped as partners. Also, check if they are trained/ knowledgeable on the minimum standards set by DOH, Spheres and the WaSH Clusters. These people can come from the LGU, from the community, WaTSan and other organizations in the area.

Assessment Analysis and Response Options

Using the data collected, the Assessment Team analyses what the data means or what it tells about the situation – the gaps, the priorities and the community resources that can be mobilized.



The WaSH Cluster developed a decision tree (please see next page) to guide responding organization/LGU in identifying the possible response options and in screening these options based on priorities and available resources.


IDENTIFYING RESPONSE OPTIONS
Is there an AWD or cholera outbreak declaration?
YES
Response Options
NO
Identify high risk areas to prioritize interventions and investigate causes of the outbreak
Assess public health risk in the area
Water condition
Water is safe, sufficient & accessible
Poor quality
Insufficient
Inaccessible
Response Options
Sanitation Condition
Excreta Disposal
Open Defecation Free
With Open Defecation
Solid Waste Mgt
With existing SWM and active
With existing but inactive or None at all
Vector Control (Dengue, Malaria & Filariasis)
Non-endemic
Endemic
Drainage
No need for drainage
There's a need
Governance situation in the camp/ community
Existing and active
Existing but inactive
None at all
TECHNICAL DESIGN CONSIDERATIONS
SCREENING RESPONSE OPTIONS
Check what Others are doing
Mandate
Capacity
Planned Interventions
Sort response options left
Check own agency priorities
Mandate
Capacity
Budget
Given all the response options and results of screening questions, what is/are your priority response/s considering its likely cost and impact?

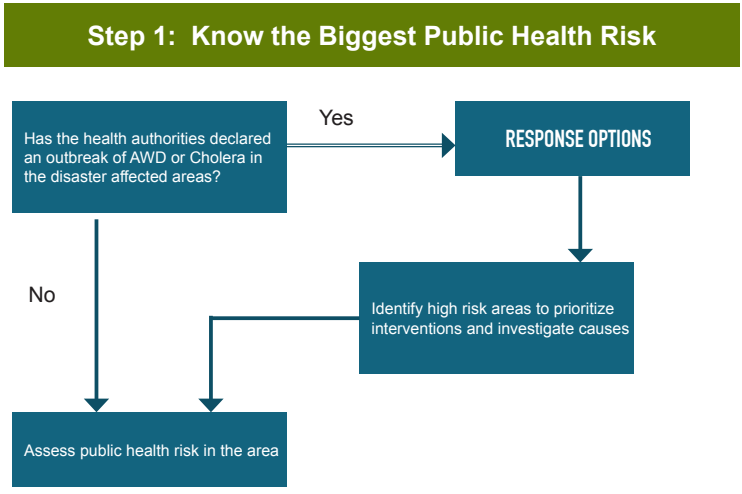
5.1 Step 1: Know the Biggest Public Health Risk

5.1.1 Existing Situation (Public Health Risk)

At the top of the assessment data checklist is the information coming from the local health authorities if they have declared an outbreak of AWD or cholera.

If the answer is “Yes”, the Assessment Team identifies the high-risk areas (high concentration of cases) to prioritize the interventions and investigate the causes of outbreak. The Assessment Team then moves to other adjacent areas to check if there are people showing symptoms of similar nature.

If the answer is “No”, the next step is to merely assess the public health risk in the area.



5.1.2 Response Options – Outbreak Management

If an outbreak of AWD or cholera is suspected or declared, the local WaSH Cluster (LGU and partners) works with the Health Cluster to:

5.1.2.1 Identify the sources

First, treat the patients. The LGUs or humanitarian agencies distribute Oral Rehydration Solutions (ORS) or alternatives. They ensure that WaSH services are provided at the treatment centers: affected people have a sufficient safe water supply, hygiene items, and appropriate sanitation facilities.

Second, the LGUs or humanitarian agencies identify the sources (specifically where the ground zero and/or contamination hotspot is). They can do water quality monitoring by administering water quality tests at water sources where the patients have been getting their supply. They can also do sanitation survey, by checking the ratio of person to toilet and the design of toilet so it does not contaminate food or water sources or become a point of infection. They can further check the presence of water, hygiene items, handwashing facilities and supplies. They can also ask people of their hygiene practices.

Third, they work with the Health Cluster and other stakeholders to trace the patterns and stages of outbreak. This will require them to interview the patients about their activities, practices, and the places they have been to (they might be carrying the disease prior to the disaster event). It might also help to check the people's shelter condition.

5.1.2.2 Cut the contamination routes

First, the LGUs or the humanitarian agencies carry out an extensive drive to disinfect all sources of water, especially drinking water. Disinfection of all drinking water can be done communally or possibly at the household level (thus, it is important to teach households on how to do this on their own). The non-food items such as soap, disinfectants and water containers are distributed.

Next, the LGUs or humanitarian agencies should focus on building or repairing toilets. They can mobilize the evacuees/affected people to assist, either in building communal latrines or household toilets.

Third, they can initiate a clean-up campaign to eliminate fecal contamination and indiscriminate disposal of solid waste.

5.1.2.3 Launch an information dissemination drive

The LGUs or humanitarian agencies implement an intensive public health campaign with specific focus on preventing AWD and cholera. They use the information on the people/evacuees' knowledge, practices and attitudes to customize the messages and approaches. They can tap representatives of the affected communities to lead the drive.

5.2 Step 2: Know the Water Condition

5.2.1 Existing Situation – Water Condition

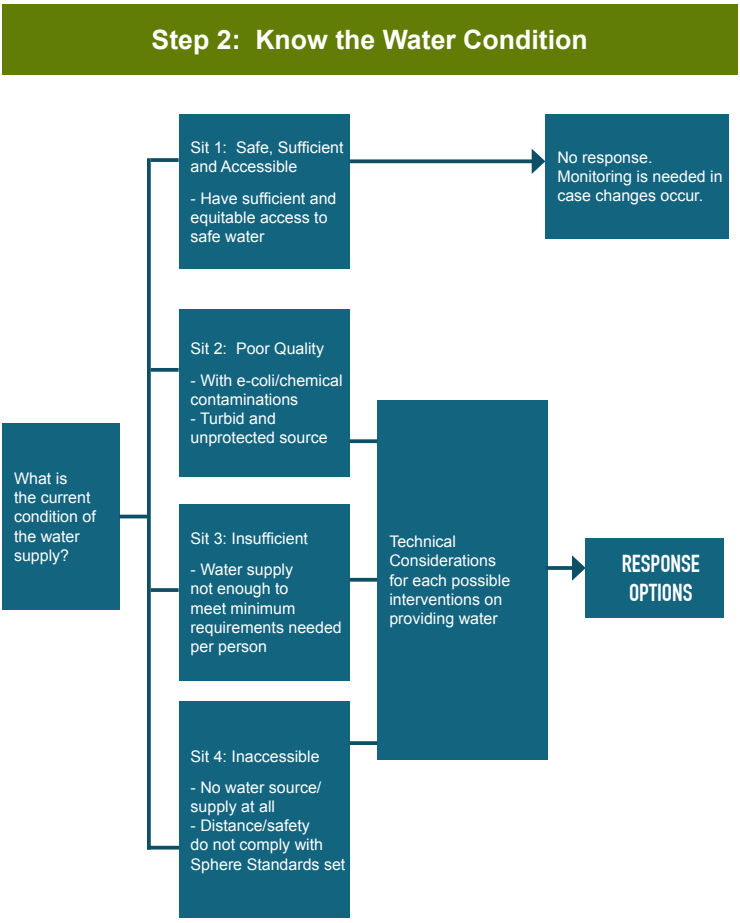
The guide question is: What is the current condition of the water supply? There are four possible situations related to water condition.

- **Situation 1: There is safe, sufficient and accessible water.** The Assessment Team collects information and observes the situation to be acceptable. Therefore, no response is needed. The Team must, however, continue to monitor the area in case the situation changes (i.e. water becomes contaminated and demand increases).

- **Situation 2: The water quality is poor.** The Assessment Team discovers E.coli is present in the water, there are indications of chemical contamination, or the water is turbid. The Team recommends interventions that will improve the quality of water.

- **Situation 3: The water volume is insufficient.** The Assessment Team finds out that water supply is not enough to meet the minimum requirements of 15 liters per person per day. The Team recommends interventions to increase the volume of water available for the affected population.

- **Situation 4: The water is inaccessible.** The Assessment Team finds the affected people do not have water source/supply or the distance/safety does not comply with the minimum standards. If so, the Team recommends interventions to develop more or repair damaged water sources/points.



5.2.2 Response Options - Water Condition

Below are the basic considerations before selecting the response option/s:

- **Acceptable yield.** The LGUs or the humanitarian agencies have to weigh the present demand against the yield of the water source. They also have to check if the yield is seasonal as well as its approximate future yield (will the source be able to cope with increase in demand?).
- **Ease/ability to obtain quality**. Apart from the volume of water that may be extracted from the source, it is prudent to determine if the quality is acceptable or easy to achieve (only requiring some degree of disinfection).
- **Impacts of development**. The LGUs or the humanitarian agencies have to consider the impact of developing a certain water source on the

existing users. An increase in water extraction may affect the aquifers or the environment.

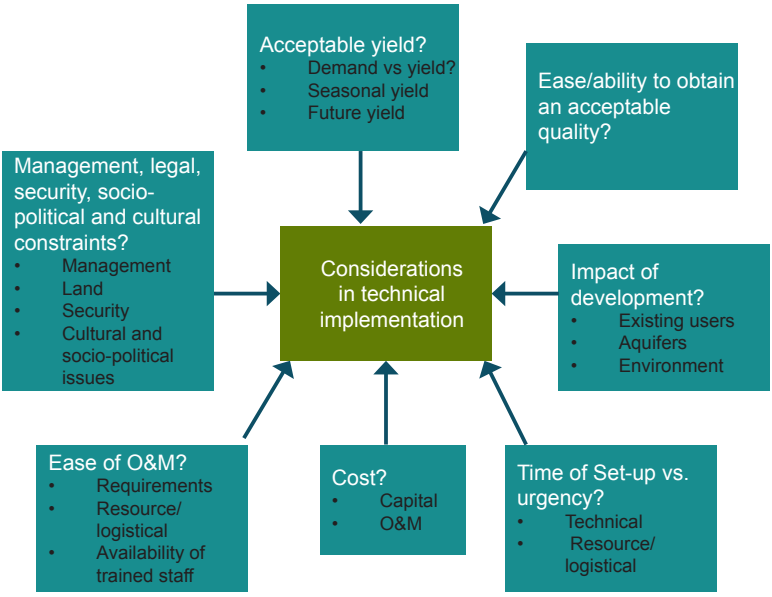
- **Time of set-up versus urgency**. By deciding to improve/develop a water source, the LGUs or the humanitarian agencies must check if they have the required technical, logistics and material resources. If these are not available, it may take time to set up the new source. This will defeat the urgency of need.
- **Costs**. It is important to have an estimate of the budget needed to develop/improve a water source, and for the subsequent Operation and Maintenance activities. This way, the LGU or the humanitarian agency can decide whether they have enough funds to start and complete the construction/improvement, as well as sustain its operation.
- **Ease of Operation and Maintenance.** In the event that the water source has been developed, another consideration apart from the cost, are the availability of materials (i.e. spare parts) and presence of local trained staff.
- **Management, legal, security, socio-political and cultural constraints.** The LGUs or the humanitarian agencies have to explore other factors that may result to conflict or create barriers for full use of the water source. For instance, if the water source falls on a private property, the permission of the private owner must be secured (i.e. supported by legal document). Or, it must be located in area where people can safely get their water.

After considering above, the LGUs or the humanitarian agencies can deliberate on the following response options.

5.2.2.1 Water System Repair

If the affected area has an existing water system, working with the local water system management and repairing the system is the most effective way to deliver safe water to the affected population and those within the system's franchise areas. Listed below are the common issues that affect water systems and some response options:

- **Transmission and distribution lines are damaged or destroyed.** The LGUs or the humanitarian agencies have to check if the water system's franchise areas include river crossings, since these are the most vulnerable to damage in a disaster. Another issue to verify is the number or percentage of the connections to the damaged houses is affected. The recommended response include:
  i. Repair the most critical transmission lines either temporarily or permanently (depending on the urgency of need, budget available and the number of people)
  ii. Isolate the most damaged branches to prevent unrestricted leakage
  iii. Install tapstands at isolated points to replace damaged household connections
- **Water quality is affected.** The LGUs or humanitarian agencies find the causes why quality of the water is compromised. The causes may include damaged water treatment plant, broken electrical supply, lack of disinfectant, and infiltration of contaminants in the transmission and distribution lines as well as the gallery overloaded with contaminants.



The recommended response options are:

i. Continue to monitor the water quality at point of use, specifically for:
   - Residual chlorine
   - Bacteriological contaminants
   - We disseminate the results to the consumers with warnings and treatment requirements.

ii. Clean the infiltration galleries

iii. Address the infiltration in the pipelines by:
   - Repairing the transmission and distribution lines
   - Increasing the pressure in the line to prevent infiltration
   - Increasing the disinfection rates

iv. Repair the water treatment systems

- **Pumping systems and wells are damaged.** The LGUs or humanitarian agencies observe damage in electrical supply and control system. The siltation of rivers and lakes are close to shallow aquifer wells. The production wells are not operating properly because these are blocked/plugged. The recommended response options are:

  i. Use a generator supply. The motor needs to be 3x the size of the previous one, and is adjusted to the correct phasing. Install appropriate starters and provide sufficient fuel supply. Shift to manual operation and monitoring.

  ii. Dredge the rivers close to the well sites.

iii. Airlift the wells
iv. Replace the motor
v. Clean the filter or replace the lubricants
vi. Consider the repair of other critical elements of the system such as the tanks, spring and surface intakes.

5.2.2.2 Water Distribution

Water distribution is necessary where the traditional sources of water are no longer functional and the people have been displaced to an area with limited or no water supply. This is often a costly option, and can only supply limited amount of water. Exit strategies need to be developed to limit the cost.

There are two options:

- **Deliver bottled water.** The water to be provided should be for drinking only. Bottled water can only be provided during the initial days for the displaced population, specifically only within 72 hours. If the stay is prolonged, it is better to use different options. The LGU or responding agencies also need to consider security concerns for this type of distribution.
- **Deliver water via water trucks**. There are several points to consider:
  i. **Truck options**. The LGUs or humanitarian agencies may consider moving the water from source to affected population by:
     - Hiring the existing water trucks with food grade stainless steel tanks.
     - Employing flatbed trucks, to be used to transport the specifically designed water bladders.
     - Considering other tankers used for hauling water, such as fire trucks, as long as these are cleaned and disinfected thoroughly

  ii. **Water Sources**. Water for trucking may be sourced from the following:
     - Treated water district water, obtained from hydrants and other sources
     - Water treatment plant
     - Pump from ground water that is tested for quality/screened for contaminants

  iii. **Water Quality.** The LGUs or humanitarian agencies check the water quality before we place it in the tanker. Other things to consider are:
     - Ensure that the water has low turbidity. Turbidity prevents effective disinfection and allows the passage of pathogenic organisms to the user/drinker (House & Reed, 1997).
     - Use chlorine as disinfectant. Chlorination is effective against most pathogenic microorganisms in water except cysts and some viruses (House & Reed, 1997).

- Test the water in the tanker, before transport to the site.
- Test the water at distribution points (such as in bladders and tanks).

iv. **Water Distribution Points.** There are two ways to distribute water via trucking.
   - Direct to consumer containers, although this is the slowest way of distribution. The trucks are fitted with distribution tapstands to allow multiple containers to fill simultaneously. The communities are informed of their delivery schedule.
   - Via water tanks and bladders, which have multiple faucet outlets. The size of the bladders and tanks need to match the known number of users to reduce the number of trips. This option can be done both in camps and residential areas.

v. **Coordination and Management**
   - Map the distribution and supply points. The LGUs or humanitarian agencies need to have these areas on a map for a more efficient delivery (i.e. match tanks with smaller capacity to closer distribution points). Also appoint/select focal points at distribution points to manage the distribution and contact the supplier. They share the communication and coordination protocols to stakeholders, so they will know whom to contact.

5.2.2.3 Household Water Treatment

Household water treatment is any activity to improve the water quality undertaken at the household level (IFRC, 2008). Household water treatment is important because it allows members of the household to carry out their own treatment, following simple instructions and with presence of water treatment products. As water may be contaminated during collection, transport and storage, the ability to do their own treatment increases the family's protection. Household water treatment has the ability to reach large population in a short time.

Because household water treatment carries several advantages, this should be the first option to implement by the LGU and the humanitarian agencies. These advantages are:

- Safety and consistent quality
- Biocidal effectiveness
- Affordability (for low-income earners)
- Availability of supply in the market
- Cost effectiveness
- Ease of use
- Safe and easy storage and handling

There are several methods of doing household-level water treatment. The most common are:

- **Boiling of Water**
  i. Households are encouraged to boil their water – at least 1 minute at rolling boil – to make it safe. There must be a community-wide campaign, particularly if the water systems or sources are of questionable water quality (not yet tested).
  ii. Distribute a simplified version of the Sphere Standards' Household Water Treatment and Storage Decision tree – whether in a poster or comics form, and in local dialect.
  iii. Using this method has its own advantages and disadvantages:

Advantages of Boiling	Disadvantages of Boiling
• Kills all germs that cause disease • Anyone can do the boiling	• Requires fuel/heat (takes 1 kilo of firewood to boil 1 liter) • Can make water tastes flat • Will not make the water less cloudy • Has no residual effect • Improper storage can lead to re-contamination • Boiling is effective if the temperature is high enough

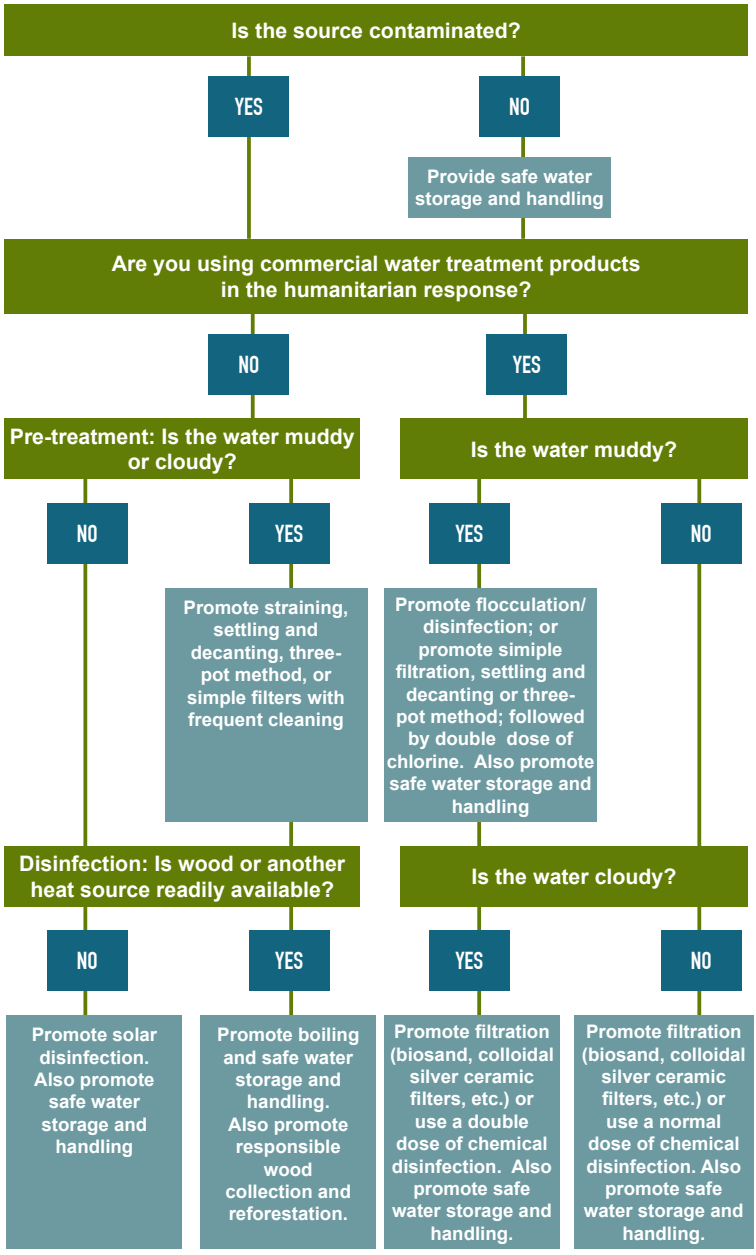
- **Chemical Disinfection**
  The contents of the kit must include:
  i. Safe water storage container (20 liters capacity with tap, and should be food grade)
  ii. Disinfectant (either in the form of Hyposol, Aquatab or Pur). Please refer to Annex 3 for the ratio.
  iii. Instruction on the use of the disinfectant (in easy to understand form and in local dialect)
  iv. Using this method has its own advantages and disadvantages:

Advantages of Chemical Disinfection	Disadvantages of Chemical Disinfection
• Easy and safe to use • Has residual effect of disinfection, giving some	• Can leave a bad taste • Disinfectant must be brought from outside the community • Chemical disinfection will not get rid of all germs that cause disease. • Water still needs to be strained prior to use of chemical disinfection

- **Solar Disinfection**
  An option to boiling is solar disinfection. Water needs to be exposed to sun for around 5 hours, preferably during mid-day.
  i. Using this method has its own advantages and disadvantages:

Advantages of Solar Disinfection	Disadvantages of Solar Disinfection
• Traditional method • Kills all disease-causing germs if exposed to the sun long enough • Can be done by most people using widely available materials (clear bottles or clear plastic bags)	• Can make the water hot • Has no residual effect • Improper storage can lead to re-contamination (water should be safety stored and used within a few days) • Take more time and requires sunny weather

Household water treatment and storage decision tree (Sphere):



5.2.2.4 Point Source Rehabilitation

In most remote areas and those not yet served by water systems, people source their water from hand pumps, dug wells and undeveloped springs. These are often physically intact, however, in events of heavy flooding and rains these may become contaminated. It is also possible that these sources may have been contaminated already even though they have been used previously without causing major issues.

It is inevitable that these sources may become compromised after a major disaster, and thus, people will be vulnerable to illness. The following are the suggested response:

- Distribute water kits and encourage people to use them properly, consistently.
- Conduct regular water testing and hold activities that will inform the people/community of the results
- Rehabilitate the damaged or contaminated sources by:
  i. Installing sanitary casings in tube wells
  ii. Installing platforms and drainage to remove contaminated water during use away from the well
  iii. Installing drainage and walls to prevent flood waters from entering the well or spring
  iv. Doing shock treatment of wells and pumps
  v. Cleaning the dippers and buckets that are used to get water out of the dug wells
  vi. Building proper spring boxes and discharge piping

5.2.3 Water Quality Monitoring

The LGU or the humanitarian agencies conduct water quality monitoring. They get appropriate amount of samples from the target sources and send these to approved laboratories for testing. Whatever the option the LGUs or the humanitarian agencies decide on, water quality monitoring should be undertaken to ensure the water being provided is safe for consumption/use.

In areas where access to approved laboratory testing is limited or impractical (i.e. too far or not timely), there are other ways to determine presence/absence of E.coli or the risk levels as per WHO standards. For instance, pool testers can be used for testing the residual chlorine for water districts and water trucking (similarly, there need to know if such are available in our area or nearby municipalities).

- For untreated sources, conduct:
  i. Bacteriological testing, to know the pathogens present and the appropriate responses needed
  ii. Turbidity and pH, to determine the amount of disinfectant to use

- For treated waters with chorine, there is a need to determine the level of residual chlorine

5.2.4 Sphere Minimum Standards on Water Supply

The Sphere Standards on Water Supply are:

- **Water Supply Standard 1: Access and water quantity**
  i. All people have safe and equitable access to sufficient quantity of water for drinking, cooking and personal and domestic hygiene. Public water points are sufficiently close to households to enable use of minimum water requirement.

Sphere Standards on Water Supply	
Basic Survival Water Needs	
Survival needs: water intake (drinking and food)	2.5 - 3 liters per day
Basic hygiene practices	2 - 6 liters per day
Basic cooking needs	3 - 6 liters per day
Total basic water needs	7.5 - 15 liters per day
Maximum Number of People per Water Source	
250 people per tap	Based on a flow of 7.5 liters per minute
500 people per tap	Based on a flow of 17 liters per minute
500 people per single-user open well	Based on a flow of 12.5 liters per minute
Minimum Water Quantitites for Institutions and Other Uses	
• Health centers and hospitals	• 5 liters per outpatient • 40-50 liters per inpatient per day • Additional quantities may be needed for laundry, equipment, flushing toilets, etc.
• Cholera centers	• 60 liters per patient per day • 15 liters per carer per day
• Therapeutic feeding centers	• 30 liters per inpatient per day • 15 liters per carer per day
• Reception/transit centers	• 15 liters per person per day if stay is more than 1 day • 3 liters per person per day if stay is limited to day-time
• Schools	• 3 liters per pupil per day for drinking and hand washing • (Use of toilets not included; see public toilets below)
• Mosques	• 2-5 liters per person per day for washing and drinking

Sphere Standards on Water Supply	
• Public toilets	• 1-2 liters per user per day for handwashing • 2-8 liters per cubicle per day for toilet cleaning
• All flushing toilets	• 1-2 liters per user per day for conventional flushing toilets connected to a sewer • 3-5 liters per user per day for pour-flush toilets
• Anal washing	• 1-2 liters per person per day
• Livestock	• 20-30

- **Water Supply Standard 2: Water quality**
  i. Water is palatable and of sufficient quality to be drunk and used for cooking and personal and domestic hygiene without causing risk to health.

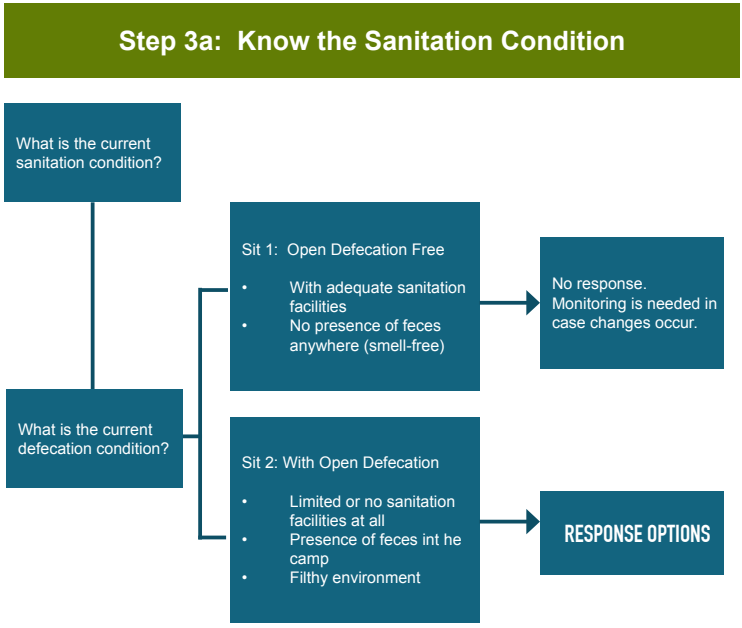
- **Water Supply Standard 3: Water facilities**
  i. People have adequate facilities to collect, store and use sufficient quantities of water for drinking, cooking and personal hygiene, and to ensure that drinking water remains safe until it is consumed.

5.3 Step 3a: Know the Sanitation Condition

5.3.1 Existing Situation - Sanitation Condition

The guide question is: What is the current defecation practice? There are two possible situations:

- **Situation 1: The area is found to be open defecation-free**. The area has adequate sanitation facilities (the key indicator of 20 people per latrine is observed). There is also absence of feces anywhere (the area is smell-free). As such, no response is needed, only monitoring should the situation changes.
- **Situation 2: The area is observed as open defecation-area**. This means, there is limited or no sanitation facilities at all, forcing people to defecate in the open. Feces are found in the camp; the environment is filthy. Thus, there is a need for interventions that will provide people with their own toilets.



5.3.2 Response Options – Sanitation Condition

5.3.2.1 Controlled open field defecation

If there are no available facilities yet (say, the immediate days after the disaster or the new site does not have facilities at all) and there is space available, the LGUs or humanitarian agencies can propose to set aside an area designated as "controlled open field defecation". Note that this should be considered as the **last resort**, and should be for the shortest time possible.

By providing this option, they must:

- Designate gender-separated spaces
- Locate downhill from the settled spaces to eliminate flood-borne spreading of feces (flood waters will not contaminate areas where people congregate/usually pass through)
- Create a map for the day-by-day use so that users do not have to walk through the contaminated spaces (if possible, mark these used areas)
- Where possible, provide materials and construction for visual barriers
- Where possible, provide tools to bury fecal waste
- Supply anal cleaning materials and disposal area
- Supply hand-washing area, soap and water

The advantages and disadvantages on using this option are:

Advantages of Controlled Field Defecation	Disadvantages of Controlled Field Defecation
• Rapid to implement • Minimal resources required • Minimizes indiscriminate open defecation	• Lack of privacy for users • Considerable space is required • Difficult to manage • Has potential for cross-contamination of users • Better suited to hot, dry climates

5.3.2.2 Trench latrines

Trench latrines are considered as an improved "controlled field open defecation" because there is a screen/sheet higher than a standing person that separates one section from the next. There is also a mound of dug soil, which can be used for back filling. This should also be considered as the last resort option.

Should this be chosen, they must consider the following:

- Trenches are dug and covered with wood and other slab materials for comfortable squatting.
- Designate gender-separated spaces
- Locate downhill from the settled spaces to eliminate flood-borne spreading of feces (flood waters will not contaminate areas where people congregate/usually pass through)
- Soil should not be clay and should allow infiltration of urine and other liquids
- Construct walls using available materials for privacy
- Supply lime or covering soil and tools to cover periodically to minimize contact with flies.

The advantages and disadvantages on using this option are:

Advantages of Trench Latrines	Disadvantages of Trench Latrines
• Rapid to implement (one worker can dig 50 meters of trench per day) • Feces can be covered easily with soil	• Short life span • Flooding of trenches during rainy season • Drainage to divert surface water from trench is required • Constant management required to ensure covering of wastes daily • Limited privacy • Unsuitable where water table is high • Odor problems

5.3.2.3 Commercial Portalets

These are self-contained individual toilets with small containment capacity and chemical disinfection. These toilets need daily emptying, translating to high maintenance cost. These are primarily used in urban emergencies in the initial stages while temporary permanent relocation sites are being built. In areas

where these will be used, the users should be given clear instructions on how to use and maintain it.

Should these facilities be installed, they must consider the following:

- Locate the portalets where it can be accessed by truck for sludge removal (a regular requirement consider its small containment capacity)
- Clear instructions provided to the people for its use and maintenance. If possible, there should be strict monitoring/penalty so users are compelled to follow instructions.
- Hire a third party for emptying, management and provision of supplies.
- This type requires sludge processing. If available in the community, dump the sludge in existing and functional waste treatment plant. Agencies or LGUs can also build and operate a temporary sludge treatment facility. Those who will be involved in emptying the sludge should be informed/trained on the referral and contact protocol for their protection.
- Provide handwashing facilities nearby.
- Provide separate portalets for males and females.

The advantages and disadvantages on using this option are:

Advantages of Commercial Portalets	Disadvantages of Commercial Portalets
• Portable • Hygienic • Minimize odor • Can be mobilized rapidly • Well-suited to areas with high water table or where flood occurs	• High cost • Difficult to transport • Requires desludging trucks and personnel and disposal sites • Vehicle access required to service toilets • Need for sewage disposal site

5.3.2.4 Emergency Latrines

In an emergency, there can be two types of latrines. These are:

- **Temporary latrines.** These can be unlined/temporary lining pits. Or, smaller pits which are good for a 1-2 month use. These can also be water-seal or dry pit, with super structure made of temporary materials (i.e. tarpaulin). Handwashing facilities should also be provided nearby.

- **Semi-permanent latrines**. These are lined septic tanks with leaching capacity or larger pits that have about 3-6 months capacity. These can be water-seal or ventilated improved privy. The super structures are made of semi-permanent, more durable materials such as lumber and GI sheets. Again, handwashing facilities should also be provided nearby.

The final design of the latrines must consider the social and environment conditions.

- **Water availability**
  i. If there is water available for flushing, water seal toilets can be built.
  ii. If there is no water available, build a ventilated improved privy instead.

- **For the water seal toilet:**
  i. Check if the location is flood-prone. If it is, build a septic tank or latrine above the ground, with the floor level above the normally expected flood levels. It must also be water-proof.
  ii. If the area is not flood-prone, check if the ground water level is 1.5 meters below.
    - If below 1.5 meters, build a septic tank or latrine with top of the tank at ground level
    - If not below 1.5 meters, elevate the septic tank or latrine and leach field to 1.5 meters above the reported water level
  iii. Determine the water requirement and water needed for leaching. Calculate the leaching area or the length of the leach pipe.

- **For the ventilated improved privy:**
  i. Consider the number of users.
    - For evacuation centers, the ratio should be 2 cubicles for 70 users per cubicle per day
    - For household communal, the ratio is 2 cubicles for 100 users total per day during evacuation
    - For household, 1 cubicle for 20 users total per day during evacuation

- **For the leach field area, consider the soil type:**
  i. Sandy loam and loam type – 240 liters per square meter per day
  ii. Loam, porous or silty loan – 60 liters per square meter per day
  iii. Clay – 10 liters per square meter per day (not suitable for leaching)

5.3.2.5 Packet Latrines

Another option to consider is the disposable packet latrines. The packet contains different chemicals to assist in breaking down the excreta. This is only possible if there is no immediate sanitation option and the target population finds it acceptable.

If this is considered for the time being:
- Launch an information drive on how to use the packet latrine
- Have a regular (daily) activity for the collection and proper disposal of the packets
- Ensure that there is a disposal site of the used packets

The advantages and disadvantages on using this option are:

Advantages of Packet Latrine	Disadvantages of Packet Latrine
• No infrastructure required • Lightweight and easy to transport • May be used where space is severely limited or in flooded areas	• Active supply chain needed to provide (at least 1 bag per person per day) • High cost of some types of bags • Need for disposal site and possible collection services • Potential for bags to be discarded in open areas or areas posing risks to others • Social acceptance varies and would need to be determined for target population • Sets a bad precedent for the "poop in a plastic bag" behavior that is prevalent in many communities

5.3.2.6 Distribution of Latrine Repair Kits

In instances where damage to houses (and therefore toilets) are minor, it is more practical for the LGUs or the humanitarian agencies to distribute latrine repair kits. This is recommended if the members of the households have basic carpentry and masonry skills, or there is sufficient number of carpenters/ construction workers who can assist in repairs of the damaged toilets and communal latrines.

The advantages and disadvantages on using this option are:

Advantages of Packet Latrine	Disadvantages of Packet Latrine
• Basic infrastructure is in place to build on • Indigenous technology and materials are used	• Limited expansion possibilities • Repair and upgrading may take time

5.3.3 Operation and Maintenance

For most of the sanitation options enumerated above, there is a need to set-up Operation and Maintenance (O&M) system, which includes:

- Setting aside funds for cleaning materials, spare parts, major repairs, and replacement
- People or organized group of people who will do the monitoring and report of the condition of the facilities
- People with special skills on construction (masons, carpenters, plumbers, etc.)
- Monitoring system, to include the people assign, frequency of monitoring, checklist of the indicators to monitor, and technical

procedures to specific sanitation options (see Desludging and Sludge Processing below as an example)

5.3.3.1 Desludging and Sludge Processing

Desludging is the process of cleaning or removing the accumulated sludge or septage from a septic tank or wastewater treatment facility (DOH). Sludge, on the other hand, refers to the mixture of solids and liquids, containing mostly excreta and water.

This process is required for portolets and also for:

- Flood-impact septic tanks that are full of water and need to be emptied.
- Septic tanks for schools, hospitals and evacuation centers that are full due to high usage rates and limited leaching capacity
- Temporary latrines with high usage rates and limited containment capacity.

Due to the high health risk, desludging requires trucking from a specialized contractor. If there are no contractors available in the area, temporary tanker with sludge pump capacity can be used as an alternative option.

Sludge processing involves the following:

- Bringing the sludge to an operational waste water treatment plant
- Bringing the sludge in an isolated, safe dumping area
- Subjecting the sludge using lime stabilization method:
  i. Desludge the septic tanks, pit latrines, portolets and other sanitation facilities
  ii. Transport the collected sludge
  iii. Discharge the sludge to a septage pit
  iv. Add and mix the lime
  v. Add and mix the indigenous micro-organisms
  vi. Dewater and empty the pit
  vii. Dry the sludge

5.3.4 Sphere Minimum Standards on Excreta Disposal

The Sphere Standards on Excreta Disposal are:

- **Excreta Disposal Standard 1: Environment free from human faeces**
  i. The living environment in general and specifically the habitat, food production areas, public centers and surroundings of drinking water sources are free from human faecal contamination.

- **Excreta Disposal Standard 2: Appropriate and adequate toilet facilities**
  i. People have adequate, appropriate, and acceptable toilet facilities, sufficiently close to their dwellings, to allow rapid, safe, secure access at all times, day and night.

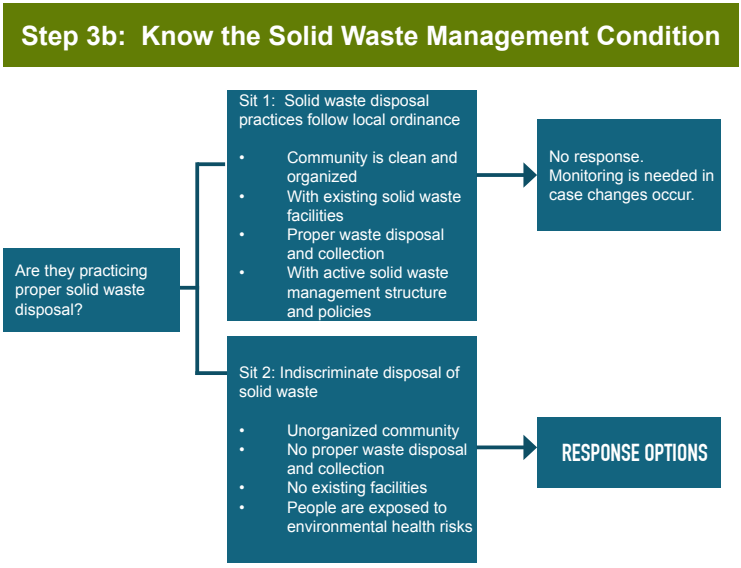
Key Indicators on Toilets at Public Places and Institutions in Disaster Situations		
Institution	**Short Term**	**Long Term**
• Market areas	• 1 toilet to 50 stalls	• 1 toilet to 20 stalls
• Hospitals/medical centers	• 1 toilet to 20 beds or 50 outpatients	• 1 toilet to 10 beds or 20 outpatients
• Feeding centers	• 1 toilet to 50 adults • 1 toilet to 20 children	• 1 toilet to 20 adults • 1 toilet to 10 children
• Reception/transit centers	• 1 toilet to 50 individuals • 3:1 female to male	
• Schools	• 1 toilet to 30 girls • 1 toilet to 60 boys	• 1 toilet to 30 girls • 1 toilet to 60 boys
• Offices		• 1 toilet to 20 staff

5.4 Step 3b: Know the Solid Waste Management Condition

5.4.1 Existing Situation - Solid Waste Management Condition

The guide question is: Is the community practicing proper solid waste disposal? There are two possible situations:

- **Situation 1:Solid waste disposal practices follow local ordinance**. The community is clean and organized. There are existing solid waste facilities near the camp/dwellings (i.e. trash bins). People segregate their trash, and trash is collected daily (particularly in high-density camps). There is an active solid waste management structure (i.e. teams are going around to remind and assist people to dispose of their waste properly). Policies are clear and followed. Therefore, there is no response needed, only monitoring to check if there are changes in the situation.
- **Situation 2: There are evidences of indiscriminate disposal of solid waste.** The community is unorganized, they do not have teams or committees that impose strict compliance with the solid waste disposal. There are no proper waste disposal materials/bins and there is no collection of waste at all. There are no existing facilities, i.e. dump site where to dispose of the waste collected from the camps. People are exposed to environmental health risks due to lapses/gaps in solid waste management. Therefore, the most important thing is to reduce wastes in the camps/shelters.



5.4.2 Response Options - Solid Waste Management

The LGUs or the humanitarian agencies can proceed with the following:

- Provision of garbage bins in evacuation camps and temporary resettlement sites
- Provision of environmental cleaning kits
- Construction of compost pits or Material Recovery Facilities
- Facilitation of garbage removal from site or onsite disposal
- Segregation campaigns
- Clean-up drive
- Hygiene promotion specific to behavior change

5.4.3 Sphere Minimum Standard on Solid Waste Management

The Sphere Standards on Solid Waste Management are:

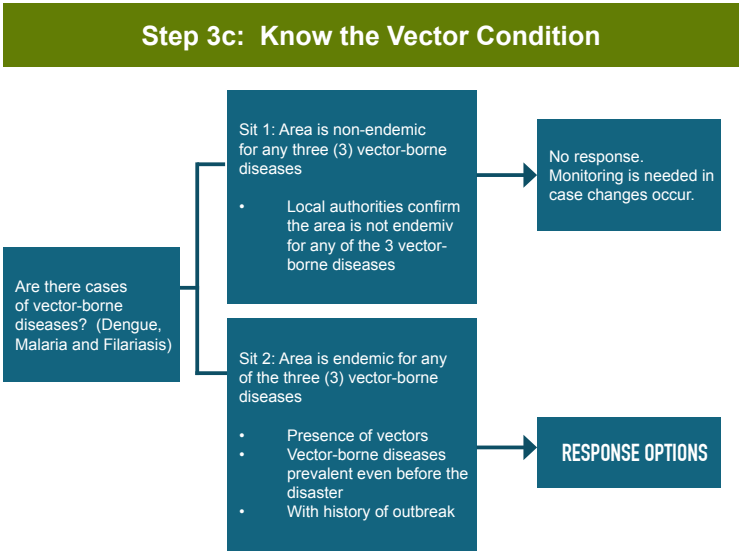
- **Solid Waste Management Standard 1: Collection and disposal**
  i. The affected population has an environment not littered by solid waste, including medical waste, and has the means to dispose of their domestic waste conveniently and effectively.

5.5 Step 3c: Know the Vector Condition

5.5.1 Existing Condition – Vector Condition

The guide question is: Are there cases of vector-borne diseases (such as dengue, malaria and filariasis)? There are two possible situations:

- **Situation 1: The area is non-endemic for any 3 vector-borne diseases.** The local authorities confirm that the area is not endemic for any of the three vectors. As such, not response is needed.
- S**ituation 2: Area is endemic for any of the three vector-borne diseases.** There are official reports on the presence of vector-borne diseases even before the disaster.



5.5.2 Response Options - Vector Condition

The following are the response options:

- Provision of insecticide-treated nets (see WHO recommended long-lasting insecticidal nets - LLIN)
- Clean-up drive/environmental control
- Awareness campaign/hygiene promotion
- Establish a referral mechanism for people infected with malaria and other vector-borne diseases for early diagnosis

It is also important that people are informed of the presence of threat or actual cases in their vicinity so they take extra precaution to protect themselves. For instance, people make an effort to cover their food and remove stagnant water from containers.

5.5.3 Sphere Minimum Standards on Vector Control

The Sphere Standards on Vector Control are:

- **Vector Control Standard 1: Individual and family protection**
  i. All disaster-affected people have the knowledge and means to protect themselves from disease and nuisance vectors that are likely to cause a significant risk to health or well-being.

- **Vector Control Standard 2: Physical, environmental and chemical protection measures**
  i. The environment where the disaster-affected people are placed does not expose them to disease-causing and nuisance vectors, and those vectors are kept to a reduced level where possible.

- **Vector Control Standard 3: Chemical control safety**
  i. Chemical vector control measures are carried out in a manner that ensures that staff, the disaster-affected population and the local environment are adequately protected and that avoids creating chemical resistance to the substances used.

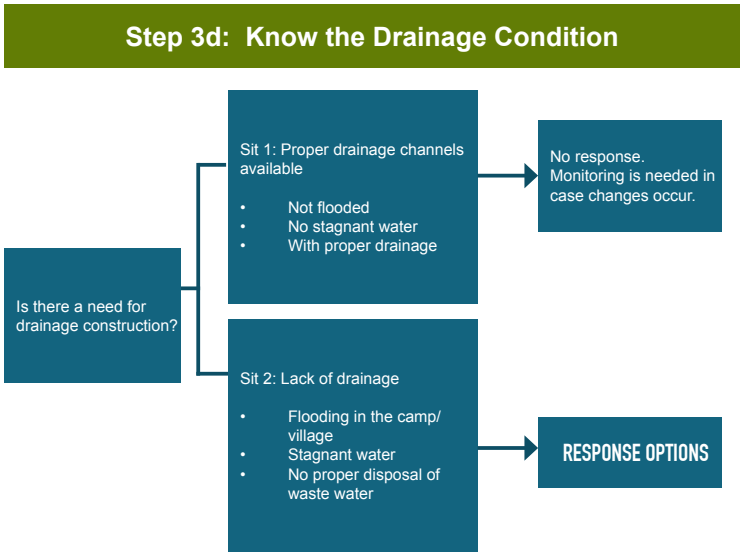
5.6 Step 3d: Know the Drainage Condition

5.6.1 Existing Situation - Drainage Condition

The guide question is: Is there a need for drainage construction? There are two possible situations:

- **Situation 1: Proper drainage channels are available.** The LGU or the humanitarian agencies ascertain that the area has proper drainage. The area is not flooded, nor are there evidences of stagnant water. Therefore, no response is needed, only monitoring should the situation changes.

- **Situation 2: The area/community lacks drainage**. The LGUs or humanitarian agencies confirm there is flooding and stagnant water in the camp/village. There is also no proper disposal of waste water.



5.6.2 Response Options - Drainage Condition

Camps and shelters need to be free from surface water. Surface water refers to wastewater (from household activities and water points), leaking toilets and sewers, rainwater or floodwater, and when left alone, stagnant can pose health risks to the people. Surface water may contaminate the water supplies and damage the toilets and dwellings. It may also turn into breeding site for mosquitoes.

The LGUs or the humanitarian agencies may consider the following:

- Building proper drainage facilities to drain the surface water, particularly at all water points, handwashing and bathing facilities
- Providing simple tools to households/affected population so they can do their own small drainage works and maintenance
- Embarking on a hygiene promotion specific to behavior change (proper disposal of liquid wastes)

5.6.3 Sphere Minimum Standards on Drainage

The Sphere Standards on Drainage are:

- **Drainage Standard 1: Drainage work**
  i. People have an environment in which health risks and other risks posed by water erosion and standing water, including stormwater, floodwater, domestic wastewater and wastewater from medical facilities, are minimized.

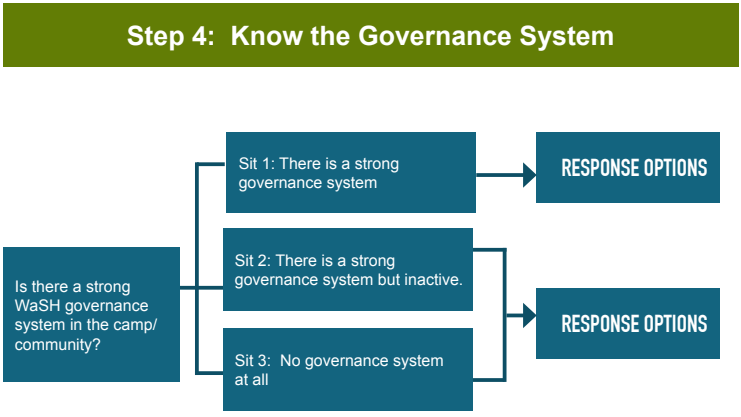
5.7 Step 4: Know the Governance System

Governance is defined as "the complex mechanisms, processes, relationships and institutions through which citizens and groups articulate their interests, exercise their rights and obligations and mediate their differences" (UNDP and DILG). As the duty bearers of WaSH, the LGUs must have policies, structures, resources and activities that ensure people of their access to safe, accessible and sufficient water and sanitation. In the same manner, the community is empowered and participates in the awareness building, planning and development, operation and maintenance, and sustainability of WaSH services and facilities.

5.7.1 Existing Situation - Governance System

The guide question is: Is there a strong WaSH governance system in the camp/ community? There are three possible situations:

- Situation 1: There is strong governance.
- Situation 2: There is governance system but inactive.
- Situation 3: There is no governance system at all.



5.7.2 Response Options – Governance System

The following are the possible response options under Governance:

- **If governance system is present,** the LGUs or the humanitarian agencies can tap/mobilize the existing structure/s to help with the interventions. But before that is done, they have to assess the existing capacity and provide, if necessary, adequate capacity development and support to fit the situation/needs. Further, it is also important to verify if they have the following:
  i. Integrated WaSH Plan (which covers both development and emergency situations, i.e. part of CDP-ELA and/or DRRM Plan)
  ii. Corresponding budget for the identified project activities
  iii. Established WaSH-based governance mechanism

- I**f governance system is present but inactive.** This refers to having team/committee has been previously organized, but is currently not functional or whose members cannot function for the time being. The option is to check if they can be tapped/mobilized, and if they need capacity development. Other than the training, they should also be supported in formulating a short-term WaSH Plan and organizing an emergency governance structure (i.e. WaSH governance structure or WatSan committee).

- **If there is no governance system at all, it is best to organize a team and train them.**

The following are the existing structures which can be tapped for WaSH interventions during emergencies.

5.7.2.1 Local Disaster Coordinating Councils at the City and Municipal Levels

The Philippine Disaster Risk Reduction and Management Act of 2010 mandates the municipal/city LGUs to be the frontline first responders and coordinator for relief interventions. However, they have limited resources and capacity for WaSH Response. They need to leverage the resources of other government agencies and the NGOs involved in WaSH that have presence in the area. The National Disaster Coordinating Council (NDCC) Circular No. 5 series of 2007 adopts the cluster approach in coordinating emergency and relief programmes. WaSH Cluster operates at global, national and local levels. Thus, the WaSH Cluster counterparts at the municipal/city level can coordinate emergency and relief efforts to maximize impact.

The council is composed of the following:

- Local chief executive
- Local Planning and Development Officer
- Head of the Local Disaster Risk Reduction and Management Office
- Local Social Welfare and Development Office

- Local Health Office
- Local Agriculture Office
- Gender and Development Office
- Local Engineering Office
- Local Veterinary Office
- Local Budget Office
- Division Head/Superintendent of Schools of DepEd
- Highest ranking officer of the Armed Forces of the Philippines assigned in the area
- Provincial Director/City/Municipal Chief of the Philippine National Police
- Provincial director/City/Municipal Fire Marshall of Bureau of Fire Protection
- President of the Association of Barangay Captains
- Philippine Red Cross
- Four accredited CSO members
- One private sector representative

At the local level, the council is directly under the Local Health Office, as part of the overall Health Cluster.

5.7.2.2 Municipal/City WaSH Focal Point

To assist the municipal/city LGUs in coordination, the Regional WaSH Cluster works with other agencies to delegate an agency (private) as the counterpart in coordination. The Municipal/City WaSH Cluster is composed of the following:

- **Municipal/City WaSH Focal Point**
  i. Leads the cluster
  ii. Designated by the Mayor
  iii. Has specific functions and responsibilities, including:
    - Take the lead role in WaSH coordination in their assigned municipality or city. (Focal points for all humanitarian WaSH intervention)
    - Convene all WaSH stakeholders within the LGU including non-government organizations to WaSH coordination meetings
    - Ensure that the WaSH Cluster Information for the Municipality is up to date, and reflects the total implementations and the priority status/coverage on a regular basis through discussion with Municipal/City WaSH FP/Active NGO's/other.
    - Prioritize the critical WaSH needs of the municipality in terms of affected barangays, schools and health care facilities based on an analysis of the reports from the different barangay officials and the assessments of partners.
    - Provide inputs to the Health Emergency Preparedness, Response and Recovery Plan (HEPRRP), ensuring funding allocation from the local DRRM fund for preparedness and response (QRF), monitoring preparedness and response activities

- **Focal Point Agency**
  i. Likely an NGO
  ii. Works with the Municipal WaSH Focal Point to coordinate efforts
  iii. Either volunteers or is appointed by the Regional WaSH Cluster
  iv. Reports issues to the regional level
  v. Has specific Terms of Reference, including:
    - Provide an alternative focal point of call for all humanitarian WaSH intervention in the Municipality.
    - Provide capacity building in coordination/emergency WaSH response to the M/CWFP where Necessary.
    - Assist M/CWFP in the advocacy with the local government and with the WaSH Cluster/others to have in the WaSH needs filled.
    - Provide input to higher level (Provincial/Regional) WaSH Cluster if the M/CWFP is unavailable to attend meetings or supply reports.

- The Municipal/City WaSH Cluster can also tap/mobilize the **existing WaSH management mechanisms** present in the area:
  i. Water districts and small service providers
  ii. WatSan councils
  iii. Sanggunian Bayan Health Committees

- **Barangay Councils**
  Barangay councils can be used to provide mechanisms to manage community-based WaSH interventions and setting-up WaSH Committees, since they are more familiar with the area and the people.

  The barangay-based WaSH committee is composed of the following:
  i. Chairperson
  ii. Vice Chair (can be a Kagawad on Health)
  iii. Secretary
  iv. Distribution Officer (organizes distribution)
  v. MLGU/INGO Liaison Officer (communicates with MLGU and other actors about WaSH activities done, ongoing as well as gaps)
  vi. Community Hygiene Promotion Officer (leads and promotes proper hygiene or do hygiene promotion sessions)
  vii. Monitoring/Recording Officer (does regular monitoring of facilities installed in the EC/HB, regularly reports monitoring results to the body and/or committee)
  viii. Members

WaSH Committee can assume the following responsibilities:

- **Operation of WaSH facilities/monitoring of usage**
  i. Operate the facilities during service hours
  ii. Set up and adhere to an operation plan
  iii. Clean the facilities
  iv. Ensure that the facilities are functioning (e.g. filling up tanks during rainy season)

v. Ensure the security of the WaSH facilities against vandalism, misuse, and damage from animals
vi. Ensure water is used efficiently

- **Maintenance of WaSH facilities**
  i. Set up a maintenance plan
  ii. Perform regular servicing/overhaul of the facilities
  iii. Change the fittings and do (minor) repairs
  iv. Clean the facilities

- **Monitoring and Evaluation of WaSH facilities/activities**
  i. Perform regular check-ups (according to a checklist)
  ii. Monitor progress and evaluate programs

- **Management tasks/ coordination and communication**
  i. Set up a statute/constitution for the committee
  ii. Attend regular meetings
  iii. Write reports (minutes and reports to authorities)
  iv. Attend all trainings, meetings, FGDs
  v. Represent the community in all matters related to WaSH
  vi. Coordinate with MLGU and other WaSH actors
  v. Report the results to LGU and other concern agencies to assist planning

- **Sustainability of WaSH facilities**
  i. Cooperate with local authorities and other stakeholders to sustain and extend the facilities
  ii. Mobilize community member to participate in WaSH activities
  iii. Identify issues that require action
  iv. Maintain frequent communication with the community members to inform them about
  v. Discuss WaSH issues and provide a platform for the community at large, particularly marginalised and vulnerable sectors to express their concerns
  vi. Resolve the problems related to WaSH activities and facilities

- **Health and hygiene promotion activities**
  i. Conduct health awareness training for the community
  ii. Conduct health awareness and promotion training in schools
  iii. Perform mome visits and In schools (observation of children's personal hygiene and health care)

- **Active participation in the planning process**
  i. Beneficiary selection
  ii. Information dissemination
  iii. Conflict resolution
  iv. Distribution planning

5.8 Hygiene Promotion and Behavior Change

Hygiene promotion is a planned, systematic approach to enable people to take action to prevent and/or mitigate water, sanitation and hygiene-related diseases (Sphere). It aims to reduce high-risk hygiene practices, promote appropriate use and maintenance of facilities, and promote participation in sanitation program (WEDC).

In an emergency situation, people tend to sacrifice hygiene behavior and practices due to their difficult condition, lack of supplies, and not being able to grasp the change in their situation. Hygiene promotion and behavior change – or good behavior reinforcement is needed.

Thus, most of the hygiene promotion activities make use of the F-diagram in explaining how to prevent the transmission of pathogens (in feces) from being ingested/drunk by people.

The following are the key messages emphasized during Hygiene Promotion activities or in the information materials:

- **Handwashing at critical times**, such as before and after eating, after using the toilet, after changing diapers of babies, or after helping the children clean up after defecation.
- **Safe water chain**, which refers to keeping water safe from the source to consumption. This includes collection and handling, storage, and treatment. We have to make the people ensure that their hands are clean before collecting and handling water, they use clean cups and mugs for drinking, and they clean containers regularly.
- **Promote proper sanitation behavio**r. This includes proper disposal of faeces, cleaning and maintaining the toilets they use, throwing the waste in designated bins and collecting the trash regularly, keeping the surrounding free of standing wastewater and flood waters, taking bath regularly, among others.

These messages can be disseminated through:

- Information and education campaigns
- Peer training and reinforcement campaigns
- Advocacy through camp management and during implementation of WaSH hardware

5.8.1 Hygiene Supplies

Hygiene maintenance requires supplies. However, supplies may not be readily available because of the destruction of markets or break in the logistic chains.

The following supplies are distributed to affected families, sufficient for 30 days. The LGU or the humanitarian agency must also explore resupply strategy for the stabilization phase and for the most vulnerable groups:

- Soap for handwashing and bathing
- Soap for laundry

- Toothbrushes and toothpaste for dental hygiene
- Menstruation supplies for women and girls

5.8.2 Menstrual Hygiene

In a 2013 Report on Sanitation and Hygiene for Women and Girls ((Water Aid, Domestos and Unilever)), more than 800 million women and girls from 15 to 45 menstruate daily (age can be lower for the youngest and higher for the oldest in other areas). They need adequate and appropriate sanitation and hygiene facilities, allowing them comfort and space to manage their monthly cycles with privacy and dignity. These facilities should also have sufficient water and soap to wash menstrual cloths, or sealed containers to dispose of their used sanitary napkins. Above all, they need to have access to clean and sufficient menstrual supplies.

5.8.3 Sphere Minimum Standards on Hygiene Promotion

The Sphere Standards on Hygiene Promotion are:

- **Hygiene Promotion Standard 1: Hygiene promotion implementation**
  i. Affected men, women and children of all ages are aware of key public health risks and are mobilized to adopt measures to prevent the deterioration in hygienic conditions and to use and maintain the facilities provided.

- **Hygiene Promotion Standard 2: Identification and Use of Hygiene Items**
  i. The disaster-affected population has access to and is involved in identifying and promoting the use of hygiene items to ensure personal hygiene, health, dignity and well-being.

The basic hygiene items (Hygiene Kits) are:

Basic Hygiene Item	Standard
10-20 liter capacity water container for transportation	One per household
10-20 liter capacity water container for storage	One per household
205g bathing soap	One per person per month
200g laundry soap	One per person per month
Acceptable material for menstrual hygiene, e.g. washable cotton cloth	One per female

5.9 Screening Response Options

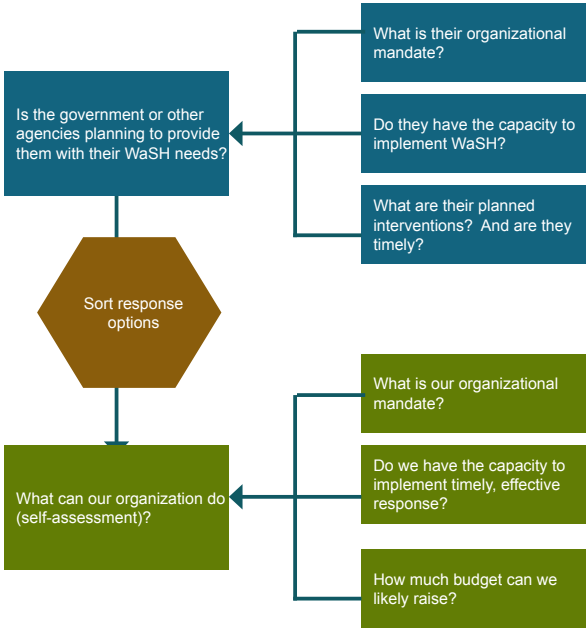
If the LGU or the humanitarian agencies have already identified specific communities/localities, undertaken the assessment activities, and deliberated on the possible options, they can further screen the response options by comparing how they stand vis-à-vis other organizations (intending to respond) in terms of:

- Organizational mandate
- Capacity to implement WaSH
- Specific planned interventions, and if timely
- Budget that can be raised
-

Can the LGU or other humanitarian agencies:

- Have it in their organizational mandate to provide humanitarian response?
- Have the number of people, skills set, and experience to implement effective WaSH response?
- Have planned interventions that will likely resolve/alleviate the WaSH situation of the affected people?
- Provide these interventions that are timely to the needs of the people?
- Have the capacity to raise budget needed for the response?

The LGUs or the humanitarian agencies make their self-assessment, weighing the gaps/needs, cost, impact, and possible areas of complementation.



5.10 Modalities in Emergency Response

After choosing the most appropriate interventions for the affected population, the LGUs or the humanitarian agencies may also consider cash transfer and vouchers as modalities in addressing the needs and achieving response objectives. It is an alternative to distributing relief items directly.

Cash transfer programming is considered a tool in "shifting the decision-making power and responsibility to the beneficiary, who decides how and what resources and services will be accessed" (McHattie, 2012). This tool provides the following benefits:

- Dignity
- Flexibility and choice
- Cost-efficient for agencies and beneficiaries
- Multiplier effects and link to recovery
- Support or revitalize local trade and economic recovery

However, before this tool is used, there are some prerequisites to consider (Cash Learning Partnership (Oxfam)):

- Political and community acceptance
- Availability of well-functioning and reliable financial service providers
- Institutional capacity
- Presence of qualified staff who can be quickly mobilized
- A reliable identification system
- Operational market that can absorb the cash flow (following lessons learned from Pablo and Yolanda)

The following are the main types of cash interventions (Jaspars & Harvey, 2007):

Concept	Definition
Cash grants	Giving people money as a direct grant with no conditions or work requirements
Conditional cash transfer	Giving people money, but with a condition that they do something (such as attend school or plant seeds)
Indirect cash transfer	Grants or waivers to reduce the cost of basic services. For example, waivers for health care user fees, etc.
Cash for work	Paying people in cash for taking part in a public works programme, e.g. school construction or digging of latrines. Can be targeted at the most vulnerable
Voucher programmes	Giving people vouchers for a particular type of good (e.g. seeds) or bundle of goods

However, this tool cannot work in all context (particularly in conflict situation), due to specific security risks in distribution cash.

Social Inclusion

Emergencies are special situations – they affect people differently. Women (particularly pregnant), children, elderly, people with disabilities, and indigenous peoples require more sensitivity and consideration. If before the disaster event they lack access to resources, they have more responsibilities at home and as caregivers, physically weaker, or economically dependent, they will certainly have different needs for basic survival or coping with their changed situations.

Thus, the LGUs or the humanitarian agencies need to mainstream gender and protection issues in their WaSH interventions.

6.1 Mainstreaming Gender in WaSH

Gender refers to the social differences between males and females that are learned, and though deeply rooted in every culture, are changeable over time, and have wide variations both within and between cultures. Gender determines the roles, responsibilities, opportunities, expectations, and limitations for males and for females in any culture (IASC, 2005).

WaSH projects mainstream gender through two dimensions:

- Differences in needs and priorities of women, men, girls and boys that arise from their different activities and responsibilities
- Inequalities in access to and control over water resources and access to sanitation services

The standards on gender and the relevant actions points are:

- **Standard 1 on Gender: Allocation of financial and human resources for gender equality.**
  i. Ensure gender balance in teams, including in senior positions, and keep all staffing data disaggregated by sex for easy monitoring

- **Standard 6: Sex and age disaggregated data**
  i. Use language that differentiates target groups in all project documentation
  ii. Determine other relevant factors besides sex and age in each bracket
  iii. Ensure collection of sex and are disaggregated data as well as other factors where relevant

- **Standard 7: Gender analysis and programme design**
  i. Ensure gender balanced facilitators and interpreters and if possible, age balanced too
  ii. Use a range of participatory methodologies to consult with women, men, girls and boys separately and together

- **Standard 11: Ensuring access and participation for all**
  i. Work with and support women's organizations to promote access and participation of female beneficiaries

- **Standard 12: Dignity and empowerment of women and girls**
  i. Provide special attention to pregnant and breastfeeding mothers and people with young children. In consultation with them determine their needs.
  ii. Work with men and boys to understand the justice of, and to support women's rights in emergencies

- **Standard 13: Men and boys as allies in the promotion of gender equality**
  i. Sensitize male staff to the benefits of gender equality approaches
  ii. Work with male beneficiaries to understand the justice and benefits of, and to support women's rights in emergencies
  iii. Do not alienate men and boys

- **Standard 14: Safe programming (addressing gender-based violence)**
  i. Establish and define safe mechanisms to allow people to report any gender-based violence (GBV) or risky situations
  ii. Provide information and referral to survivors about availability of response services (medical, psychosocial, legal/justice where they exist; obtain feedback on quality of service and build up directory of quality service providers)

6.2 Mainstreaming Protection in WaSH

Protection refers to all activities aimed at obtaining full respect for the rights of the individual in accordance with the letter and spirit of relevant bodies of law – Human Rights Law, International Humanitarian Law, Refugee Law and national laws. These are activities aimed creating an environment in which human dignity is respected, specific patterns of abuse are prevented, or their immediate effects alleviated, and dignified conditions of life are restored.

The minimum standards for mainstreaming protection in WaSH promotion programmes are:

- **Standard 1: Agencies promote equitable access to WaSH programmes and facilities**
  i. Identify local authorities responsible for WaSH programmes and strengthen and support their role where possible
  ii. Assess whether inequitable access to water and/or sanitation facilities is causing tension or conflict

iii. Make sure that the beneficiaries are aware of their rights to equitable and safe water
iv. Monitor whether any individuals or groups control WaSH facilities and/or discriminate against certain individuals or groups gaining access to facilities or hygiene promotion programmes
v. Include representatives of different groups in participatory processes and committees
vi. Support provision of WaSH facilities for all infrastructure, including learning or meeting sites and health centres

- **Standard 2: Agencies prioritize safety and dignity in WaSH programmes**
  i. Prioritize safety when choosing WaSH facilities locations, ensuring good visibility
  ii. Provide lighting for all WaSH facilities, or torches for each household
  iii. Provide adequate explanation on how to use WaSH facilities
  iv. Provide separate lockable toilets and washing facilities for men, women, girls and boys, or alternatively separate lockable household facilities
  v. Consult widely, and with diverse groups, on the design and location of WaSH facilities and adapt facilities to cater for unique needs
  vi. Ensure all facilities and sites are child-safe
  vii. Ensure cleaning chemicals are stored safely

- **Standard 3: The unique needs of diverse groups are considered in WaSH programmes**
  i. Make adaptations such as ramps and railings to WaSH facilities so that all individuals and groups can access and use facilities in safety and dignity
  ii. Provide appropriate hygiene materials to individuals and groups
  iii. Provide private space for women and girls to clean, dry and dispose sanitary materials
  iv. Set up a complaints and response mechanism

Monitoring and Evaluation

The responsibilities of the LGUs or the humanitarian agencies do not end after the distribution of items, construction of facilities, enhancement of capacities or formation of people. They still have to do monitoring and evaluation (M&E) to ensure the quality of interventions and capture any variations or problem areas as early as possible.

Monitoring is defined as a systematic and continuous process of collecting and analyzing information about the project (or intervention) that tells the organization it is on track to reach its objectives, and whether or not the project/intervention achieved or contributed to the desired impact. The monitoring information becomes basis for management decision-making, i.e. such as the need to make adjustments on the project or project operation.

On the other hand, evaluation refers to the period assessment of a project/ intervention's relevance, performance, efficiency, and impact (both expected and unexpected) in related to stated objectives.

A sound and feasible M&E system is based on having a good set of indicators. Below are the common WaSH indicators, differentiated by emergency phases:

Area	First Month	Month 2-3	Early Recovery
Water in camps or temporary relocation sites	• number of water kits • Quantity of water delivered to camps/day • number of people in camps with access to safe water • number of water points tested and chlorinated	• number of water kit replenishments • quantity of water delivered to existing camps/ day • number of people in existing camps with access to safe water • number of water points tested and chlorinated • number of water points made accessible in TRS/BHs	• number of water kits distributed to temporary relocation sites/ bunkhouses • number of water points made accessible in TRS/BHs • number of people over quantity of water with access to safe water

Area	First Month	Month 2-3	Early Recovery
Water in communities	• number of water kits • number of people with access to emergency water supply • number of water points tested and chlorinated	• number of water kit replenishments • quantity of water delivered to existing camps/ day • number of people in existing camps with access to safe water • number of water points tested and chlorinated • number of water points made accessible in TRS/BHs	• number of water kits distributed to temporary relocation sites/ bunkhouses • number of water points made accessible in TRS/BHs • number of people over quantity of water with access to safe water
Sanitation in camps or temporary relocation sites	• number of emergency toilets accessible to communities • number of latrines repair kits distributed to households • frequency of garbage collection	• number of emergency toilets accessible to communities • number of latrines repair kits distributed to households • frequency of garbage collection	• number of household latrines rehabilitated • frequency of garbage collection • frequency of desludging
Hygiene in camps or temporary relocation sites	• number of hygiene kits distributed to families in camps • number of people receiving key hygiene messages • number of bathing spaces constructed per number of displaced persons • number of hand washing facilities constructed per number of displaced persons	• number of hygiene kit replenishment • number of people receiving key hygiene messages • number of people with access to bathing spaces and hand washing facilities	• number of hygiene kit replenishment • number of people receiving key hygiene messages • number of people with access to bathing spaces and hand washing facilities
Hygiene in communities	• number of hygiene kits distributed to communities • number of people receiving key hygiene messages	• number of hygiene kit replenishment • number of people receiving key hygiene messages	• number of hygiene kit replenishment • number of people receiving key hygiene messages

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Annexes

Annex 1: Objectives and Members of WaSH Cluster

Lifted from the National Disaster Response Plan (June 2014):

Objectives of the WaSH Cluster

The WaSH Cluster aims to provide predictive leadership in coordinating water, sanitation and hygiene programs designed to minimize public health risks among affected men, women, children, persons with disabilities and other marginalized groups. It shall complement the local government effort in reducing water, sanitation and hygiene related morbidity, mortality and disabilities during emergencies and disasters by reducing faeco-oral diseases and exposure to disease bearing vectors through the following: a) Provision of safe drinking water; b) Provision of temporary and semi-permanent sanitation facilities and c) hygiene promotion.

Specifically, the WaSH Cluster aims to:

a. Develop cluster operational strategies covering the preparedness and response phases for emergency and disaster management with special consideration to vulnerable populations;
b. Establish coordination, collaboration and networking within and among clusters;
c. Establish reliable systems that will ensure effective implementation and continuous improvement of the WaSH Cluster Approach during emergencies and disasters;
d. Ensure access to WaSH services for affected populations such as safe and adequate water supply, proper and adequate sanitation in terms of excreta disposal, hygiene promotion and education, solid waste management and drainage, and vector control during emergencies and disasters; and
e. Build and strengthen the capacity of the regional and local WaSH clusters.

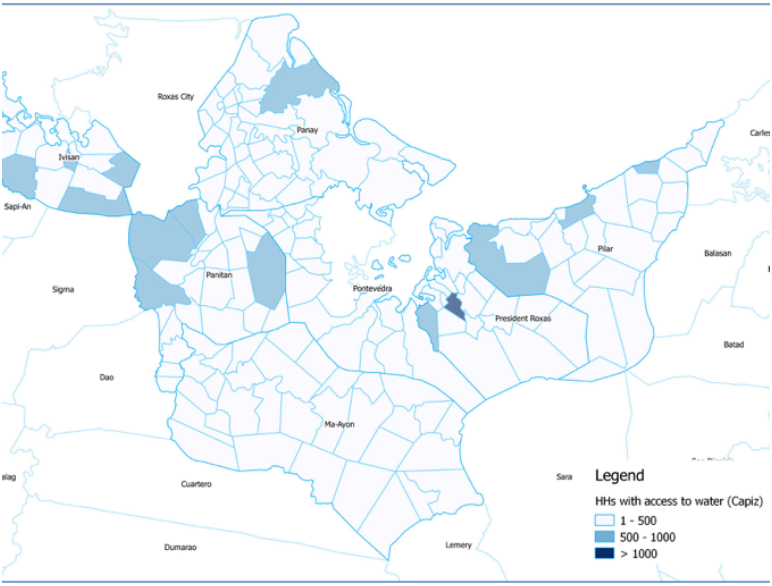
Members of the WaSH Cluster:

Government Organizations	Cluster Partners
DOH-National Center for Disease Prevention and Control (Environment and Occupational Health Office)	United Nations Children's Fund
Department of Interior and Local Government	World Health Organization
Department of Education	Action Against Hunger (ACF International)
Department of Public Works and Highways	Oxfam Great Britain - Philippine Programme

Government Organizations	Cluster Partners
Local Water Utilities Administration	Save the Children
Bureau of Fire Protection	A Single Drop for Safe Water
Metropolitan Water Works and Sewerage Services	Philippine Red Cross
	Spanish Red Cross
	Manila Water Company, Inc.
	Maynilad Water Services, Inc.
	Catholic Relief Services
	Adventist Development and Relief Agency
	Merlin
	World Vision
	Philippine Ecosan Network

Annex 2: Assessment Tools

A. Households With Access to Water



B. 3Ws

	Activity (Select the appropriate activity inthe dropdown list)	MunicipalityMandatory	ORGANIZATION(Implementing Agency)	Quantity (in Numbers)
4	Construction of latrines in ECs	PILAR	Action Contre La Faim	8
5				10
6	Construction/rehabilitation of latrines in communities or household	PILAR	Action Contre La Faim	10
7				16
8	Distribution of hygiene kits	DAO	Unicef	626
9		DUMALAG	International Rescue Committee	39
10			Unicef	177
11		DUMARAO	International Rescue Committee	54
12			Philippine Red Cross	176
13				263
14			Unicef	119
15				611
16		IVISAN	International Rescue Committee	31
17			Unicef	71
18				373
19		JAMINDAN	International Rescue Committee	38
20			Unicef	364
21		MA-AYON	Unicef	88
22				462
23		MAMBUSAO	Unicef	182
24				490
25		PANAY	International Rescue Committee	46
26			Philippine Red Cross	147
27				688
28			Unicef	251
29				400
30		PANITAN	Unicef	107
31				596
32		PILAR	Action Contre La Faim	7
33				8
34				61
35				105
36				315
37				372
38				593
39				958
40			Unicef	42
41		PONTEVEDRA	Action Contre La Faim	1

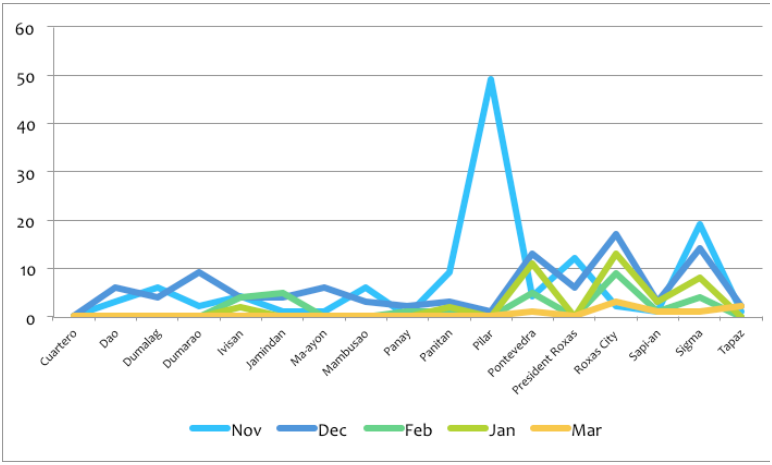
	A	B	C	D	
43	**Distribution of hygiene kits**	**PONTEVEDRA**	Action Contre La Faim		7
44					8
45					16
46					20
47					35
48					45
49					54
50					62
51					70
52					71
53					81
54					110
55					164
56					186
57					250
58					473
59					798
60			Unicef		567
61		**PRESIDENT ROXAS**	Unicef		73
62					343
63		**ROXAS CITY (CAPITAL)**	Child Fund	(blank)	
64			International Rescue Committee		122
65			Unicef		122
66		**SAPI-AN**	Unicef		27
67					357
68		**SIGMA**	Unicef		83
69					446
70		**TAPAZ**	Unicef		65
71		**(blank)**	Latter Days Saints Charities	(blank)	
72			Provincial Health Office	(blank)	
73	**Distribution of water kits**	**CUARTERO**	Unicef		521
74		**DAO**	Unicef		577
75		**DUMALAG**	International Rescue Committee		39
76			Unicef		39
77		**DUMARAO**	International Rescue Committee		54
78			Unicef		244
79					515
80		**IVISAN**	Humanity First		100
81			International Rescue Committee		31
82			Unicef		171
83					273
84		**JAMINDAN**	International Rescue Committee		38
85			Unicef		238

	A	B	C	D	
86	**Distribution of water kits**	**JAMINDAN**	Unicef		303
87		**MA-AYON**	International Rescue Committee		183
88					206
89					292
90			Unicef		199
91					351
92		**MAMBUSAO**	Unicef		919
93		**PANAY**	International Rescue Committee		46
94			Unicef		746
95		**PANITAN**	Unicef		240
96					463
97		**PILAR**	Action Contre La Faim		8
98					61
99					105
100					275
101					319
102					381
103					593
104					958
105			Humanity First		2
106			Unicef		42
107			Welt Hunger Hilfe	(blank)	
108		**PONTEVEDRA**	Action Contre La Faim		16
109					35
110					45
111					54
112					154
113					164
114					285
115					473
116					963
117			Humanity First		25
118			Unicef		37
119		**PRESIDENT ROXAS**	Unicef		440
120		**ROXAS CITY (CAPITAL)**	Humanity First		1
121					7
122					131
123			International Rescue Committee		122
124			Unicef		122
125		**SAPI-AN**	Humanity First		50
126			Unicef		527
127		**SIGMA**	Unicef		217
128					312

B. 3Ws

Barangay	(Multiple Items)

Sum of SUM AWD		Date					
Province	**Municipal**	**Nov**	**Dec**	**Feb**	**Jan**	**Mar**	**Grand Total**
Capiz	Cuartero		0				0
Capiz	Dao	3	6	0	0	0	9
Capiz	Dumalag	6	4	0	0		10
Capiz	Dumarao	2	9				11
Capiz	Ivisan	4	4	4	2	0	14
Capiz	Jamindan	1	4	5	0	0	10
Capiz	Ma-Ayon	1	6				7
Capiz	Mambusao	6	3		0		9
Capiz	Panay	0	2	1	0	0	3
Capiz	Panitan	9	3	1	2	0	15
Capiz	Pilar	49	1				50
Capiz	Pontevedra	4	13	5	11	1	34
Capiz	President Roxas	12	6				18
Capiz	Roxas City (Capital)	2	17	9	13	3	44
Capiz	Sapi-An	1	3	1	3	1	9
Capiz	Sigma	19	14	4	8	1	46
Capiz	Tapaz	1	2	0	0	2	5
Grand Total		**120**	**97**	**30**	**39**	**8**	**294**



Annex 3: Disinfection

1. Use of water disinfectant (tablet form) – Sodium dichloro-isocyanurate
   - 3.5 mg tablet for one (1) liter water
   - 67 mg tablet for every twenty (20) liters water

2. Use of water disinfectant (granular form)
   - calcium hypochlorite 65 – 70% available chlorine

3. Use of water disinfectant (liquid form)
   - 3.5 ml of 1.25% sodium hypochlorite solution for every twenty (20) liters water

4. Stock Solution
   - Dissolve 1 level teaspoon of powder chlorine compounds to 1 liter of water
   - Disinfection using stock solution
     - Add 2 teaspoons of stock solution to 5 gallons (20 liters) of water.
     - Mix thoroughly and let it stand for at least 30 minutes before using (to kill the pathogens and to allow excess chlorine to dissipate)
     - Note: stock solution is effective only for 7 days

Annex 4: WaSH Cluster Philippines – WaSH Standards

1. Water Supply Targets

Communities with unprotected water sources available				
1 water kit/affected family (water kit includes: 1 20-litre jerry can with tap; water treatment solution/tablets sufficient for 1 month)				
Evacuation Centres and Communities with no unprotected water sources available				
Phase	Timing	Liter/person/ day	Maximum queuing time	Distance to water source
Immediate	1 month	10 L/day	1 hour	<200 m
Medium	3 months	15 L/day	30 minutes	< 200 m
Longer term		40 L/day	15 minutes	< 200 m

2. Water Quality Targets

Source	Standard
Protected well/spring sources	0 E.coli/100 ml
Piped/tinkered sources at point of use	0.2 mg/L (chlorine residual)
At times of risk of diarrhoeal outbreaks at point of use	0.5 mg/L (chlorine residual)

3. WaSH Minimum Kits

Water Kit (minimum)	
Jerry can 20 L)	1
Hyposol (bottle) / aquatabs	12*
Replenishment Water Kit	
Hyposol (bottle) / aquatabs	12*

* water treatment materials must be sufficient to get 5L/person/day for the entire familiy and for duration of 1 month)

4. Sanitation Targets

Site Type	Toilet Type	Latrine Ratios	Bathing Area Ratio	Hand Washing	Solid Waste Bins
School EC	Perm septic to meet school requirement, use of existing facilities with regular desludging	1:60	1:100	1:10 toilets but within 10m of toilet	1:10 HH

Site Type	Toilet Type	Latrine Ratios	Bathing Area Ratio	Hand Washing	Solid Waste Bins
EC other	Semi-permanent septic use of existing facilities with regular desludging	1:60	1:100	1:10 toilets but within 10m of toilet	1:10 HH
Temporary learning centres	Semi-permanent WS pit1 / urinals + use of school latrines with regular desludging	1:60 students	Nil	Group hand washing facilities min 15 taps	
Tented transit site rural	Semi-perm WS pit1	1:40 (long term)	1:80	1:10 toilets but within 10m of toilet	1:10 HH
Tented transit site urban	Semi-permanent + use of existing facilities with regular desludging	1:40	1:80	1:10 toilets but within 10m of toilet	1:10 HH
Bunkhouse transit site rural	Semi-perm WS pit1	1:20	1:40	1:10 toilets but within 10m of toilet	1:10 HH
Bunkhouse transit site urban	Semi-permanent septic	1:20	1:40	1:10 toilets but within 10m of toilet	1:10 HH
Permanent site	Family latrines (permanent septic)	Per HH			

5. Minimum Hygiene Kits

Item	Number
A. Hygiene Kit (Minimum)	
Bath soap (135g)	12
Wash soap (380 g)	4
Tootbrush	6
Toothpaste	2
Toenail cutter	1
Malong	2
Sanitary Napkin (8 pads/pack)	3
Plastic pail with cover 16 liters	1
Plastic dipper	1
B. Replenishment Hygiene Kit	
Bath soap (135 g)	12
Wash soap (380 g)	4
Toothpaste (150 ml)	2

Item	Number
Sanitary napkin (8 pads/pack)	3

WaSH Emergency Standard Kits
(The following kits are taken from Save the Children, based on the Sphere Standards and recommended by WaSH Cluster as of December 2012)

6. Family Hygiene Kit (1 month supply for a family of 5 persons)

Item **	Quantity	Unit	Notes
Bath soap (135 grams/bar)	12	Bars	250grams/person/month*
Laundry soap (380 grams/bar)	4	Bars	200grams/person/month*
Toothbrush	5	Pieces	1pc/person – 2 for adults and 3 for children
Toothpaste (150ml/tube)	2	Tubes	75ml/person
Nail Clipper	3	Pieces	
Sanitary Napkin (8 pads/pack)	3	Packs	
Bath Towel	2	Pieces	Could be replaced with malong
Pail with cover (16 litre)	1	Set	
Plastic dipper	1	Piece	
Replenishment Items			
Bath soap (135 grams)	12	Bars	
Laundry soap	4	Bars	
Toothpaste (150ml/tube)	2	Tubes	
Sanitary Napkin (8 pads/pack)	3	Packs	
Optional Items			
Malong (replacement for Bath Towel)	2	pieces	

* SPHERE Standards
** Recommended by the Philippine WaSH Cluster as of December 2012

7. Water Kit 1 - Hyposol (20 liters of drinking water per family per day)

Item	Quantity	Unit	Notes
Jerrycan with tap (20 litres)	1	container	Should be food grade
Hyposol (100mL Solution Bottle)	1	Bottle	Sodium hypochlorite - Waterine 1.25% solution
Replenishment			
Hyposol (100mL Solution Bottle)	1	Bottle	Quantity may change depending on availability of potable water.
Optional for acute emergency as applicable			
Jerry can filled with potable water	1	container	

8. Water Kit* - Aquatab (20 liters of drinking water per family per day)

Item	Quantity	Unit	Notes
Jerrycan with tap (20 litres)	1	container	Should be food grade
Aquatab® (67mg tablet)	3	Sachets**	Troclosene Sodium - 67mg Effervescent Water Purification Tablet
Replenishment			
Aquatab® (67mg tablet)	3	Sachets	Quantity may change depending on availability of potable water.
Option for acute emergency as applicable			
Jerry can filled with potable water (20 litres)	1	container	

* For water that needs disinfection only

** 1 sachet contains 10 tables of Aquatab®. A 67mg tablet of could treat approximately 20-25litres of water from protected or tube wells and rainwater. For clear piped water supply, a 67mg tablet could treat approximately 40litres of water.

9. Water Kit3* - PuR® (20 litres of drinking water per family per day)

Item	Quantity	Unit	Notes
Jerry can with tap (20 litres)	1	Container	Should be food grade
Plastic pail with lid	1	Set	should be food grade. White in color. Can hold a minimum of 10 liters of water.
Plastic stirrer	1	Piece	
Clean cloth (100% cotton)	2	pieces	Should be big enought to cover the opening of jerrycan
Rubber band	4	pieces	Could be stretched equivalent to the diameter of the opening of jerrycan
PuR	60	Sachets	1 sachet good for treating 10 liters of dirty water
Replenishment (optional)			
PuR	60	Sachets	Water disinfectant and flocculant, 1 sachet good for 10 litres of water to be treated

* For dirty and turbid water that requires flocculation and disinfection.

10. Emergency Water Supply Storage Kit 1* - Water Bladder Tank and Tap Stand

Item	Quantity	Unit	Notes
Ground Bladder Tank (10 cubic meter)	1	set	Material: UV resistant food grade PVC coated polyester fabric. (Min 1100gsm). Material must be suitable for chlorinated drinking water. All seams heat or high frequency welded. Tank Fittings: 2 x 2" BSP (F) outlets manufactured from LM25 (or equivalent) Aluminium, with anti-chafe patch and flap. Accessories: • 1 x 4" BSP (F) top cap with cover and integral pressure relief valve • 2 x 2" M/M Nipples 2 x 2" (F) 1⁄4 Turn Valve • 2 x adaptor 2" BSP (M to 1" BSP (F)) • 1 x 32mm compression to 1" (M) BSP coupler for MDPE tube • 1 x 32mm equal T compression coupling for MDPE tube • 1 x Protective groundsheet extending to at least 1m all round tank when empty • 1 x 0.5m by 2m PVC material
Tap Stand	1	set	Accessories: • 4 x M10 x 100mm long coach bolts and nuts, for mounting on metal frame • 4 x 3/8" x 3" long coach screws, for mounting on timber frame • 1 x Pack containing 1 roll PTFE tape and 4 x M10 nuts • 4 x 1" BSP (M) x 32mm dia uPVC compression coupling • 2 x Spare self closing 3⁄4" Taflo taps • 3 x 3⁄4" dia BSP F galvanised end cap • 1 x 3" (88/92mm) 1" gunmetal self tapping ferrule strap c/w stainless steel nuts & bolts • 1 x 1⁄2" to 1" ferrule key.
Pointed Trenching Shovel (Medium Size)	2	set	Wooden handle with round mouth blade.
Pickaxe (Medium Size)	2	set	Head (chisel and point) and handle (hardwood)
Adjustable Pipe Wrench	1	piece	
Level Bar	1	piece	
Nylon Chord	1	roll	

* Recommended when there is unavailable or insufficient water soruce onsite and for water trucking

11. Emergency Water Supply Storage Kit 2* - Polythylene Tank with Tap Stand

Item	Quantity	Unit	Notes
Polyethylene Water Storage Tank (10 cubic meter)	1	set	Cylindrical flat bottom Accessories: • 2 x 2” Coupling with thread • 2 x 2” M/M Nipples • 2 x 2” (F) 1⁄4 Turn Valve • 2 x adaptor 2” BSP (M to 1” BSP (F)) • 1 x 32mm compression to 1” (M) BSP coupler for MDPE tube • 1 x 32mm equal T compression coupling for MDPE tube
Tap Stand	1	set	Accessories: • 4 x M10 x 100mm long coach bolts and nuts, for mounting on metal frame • 4 x 3/8” x 3” long coach screws, for mounting on timber frame • 1 x Pack containing 1 roll PTFE tape and 4 x M10 nuts • 4 x 1” BSP (M) x 32mm dia uPVC compression coupling • 2 x Spare self closing 3⁄4” Taflo taps • 3 x 3⁄4” dia BSP F galvanised end cap • 1 x 3” (88/92mm) 1” gunmetal self tapping ferrule strap c/w stainless steel nuts & bolts • 1 x 1⁄2” to 1” ferrule key.
Pointed Trenching Shovel (Medium Size)	2	set	Wooden handle with round mouth blade
Pickaxe (Medium Size)	2	set	Head (chisel and point) and handle hardwood
Adjustable Pipe Wrench	1	piece	

* Recommended when there is unavailable or insufficient water source on site and for water trucking. Needs separate elevated flat form if no elevated area to set up.

12. Water Quality Testing Kit 1 - Del Agua

Item	Quantity	Unit	Notes
Del Agua Single Incubator Water Testing Kit (with Carrying Case)	1	set	Ancillaries: • 1 x FTT Turbidity tube (2 parts) • 1 x FPO Pooltester, chlorine/pH comparator • 1 x Incubator lid • 3 x Stack of Petri dishes with carriers • 1 x Methanol dispenser • 10 x Culture medium bottle • 1 x Forceps • 1 x Vacuum cup • 1 x Sample cable • 1 x Vacuum pump • 1 x Absorbent pad dispenser • 1 x Battery charger, 110/240V AC input, 12V DC output Filtration Apparatus: • 1 x Plastic collar • 1 x Funnel • 1 x Bronze disc • 2 x Silicon ring • 1 x Aluminium base • 1 x Rubber sealing ring • Spare Case containing: • 1 x Battery connection cable • 2 x Silicone ring • 1 x Bronze disc • 2 x Rubber sealing ring • 1 x Tube of silicon grease
Consumables (for 200 Tests	1	set	Set of Consumables for 200 tests containing: • 2 x FGP Absorbent pad, tub of 100 • 1 x FKM Membrane filter, pack of 200 • 2 x Tube of FSB 38g culture medium (membrane lauryl sulphate broth) • 1 x FD1 DPD1 rapid test tablet, pack of 250 • 1 x FD3 DPD • 3 rapid test tablet, pack of 250 • 1 x FPR Phenol red rapid test tablet, pack of 250
Spare parts for Del Agua Water Testing Kit	1	set	• 3 x set of 16 Petri dishes and carriers, aluminium • 2 x Broth pad dispenser • 1 x Set of Gaskets (3) • 1 x Brass membrane support disk

Item	Quantity	Unit	Notes
Water Sampling Bottles (100mL for microbiological testing)	1	set	Clear glass bottles with cap cover Should be sterilized prior to use Number depending on samples to be collected. Alternative to glass bottle any distilled bottled water container (sealed and content to be disposed on sampling site)
Water Sampling Bottle (500ml to 1000ml for physical and chemical testing)	1	set	Number depending on samples to be collected. Should be food grade.
Surgical Gloves	1	pair	
Disposable Masks	1	piece	Flexible adjustment string, light weight, cone type, made from 100% polyester. Good for 10 days of work.
Marking Pen	1	pair	
Water Cooler	1	piece	Flexible adjustment string, light weight, cone type, made from 100% polyester. Good for 10 days of work.

13. Water Quality Kit 2 - Residual Chlorine* and pH

Item	Quantity	Unit	Notes
Pooltester (Chlorine/pH Comparator)	1	set	Chlorine and pH indicator tool.
DPD 1 Test Tablets	1	set	Number of tablets per set depends on the number of test to be conducted. 1 tablet:1 test
Phenol Red Rapid Test Tablets**	1	set	Number of tablets per set depends on the number of test to be conducted. 1 tablet:1 test

* Alternative to pooltester are commercially available total and free chlorine comparator test kit with table consumables.

**Phenol Red test tablets could be replaced with liquid drops

14. Chlorination Kit

Item	Quantity	Unit	Notes
Chlorine Granules	1	tub	25kg tub of NaDCC, 65% to 70% active chlorine Should meet standards: • NSF/ANSI Standard 60 JECFA Specification • EN12932: Chemicals used in Treatment of Water Intended for Human Consumption - Chemicals for Emergency Use – NaDCC.
Bucket with Lid (small)	1	set	Should be food grade
Plastic Stirrer	1	piece	

15. Emergency Latrine Kit 1*

Item	Quantity	Unit	Notes
Pointed Trenching Shovel	1	piece	Wooden handle with round mouth blade.
Flat Trenching Spades	1	set	Wooden handle with square mouth blade
Pickaxe	1	set	Wooden handle with square mouth blade
Bucket (16 litre)	1	piece	Plastic, construction grade
Contractor's Rake with Handle	1	piece	12-tooth head with 280mm blade with
Digging bar (Miner's bar)	1	piece	One end chisel, one end point, 3cm diameter x 1.5 meter length
Bolster (for construction)	1	piece	225mm length with 75mm blade width
Lump hammers	1	piece	4 lbs in weight
Measuring tape	1	piece	30 meter length x 13mm width
Slab and Walling (optional if available)			
Plastic Squatting Slab	-		• Plastic (LLDPE - UV protected) squatting slabs 1.2m long x 0.8m wide x 50 to 60 mm thick HDPE (UV protected) hinged hole cover • Five M6 x 15mm brass moulded inserts on the underside of the slab - for bolting on pan and trap (included) • Packaged with P-Trap. (Equivalent specification as per supplier will do).
Tarpaulin or Plastic sheeting	Set		

* For constructing pit latrines or trench latrines with slab using locally available materials such as bamboo poles or wood planks. Also good for ground preparation for foundation and road repairs.

16. Emergency Latrine Kit 2* - Portable (optional)

Item	Quantity	Unit	Notes
Peepoo Personal Pack	3	pack	1 Pack contains 28 Peepoo toilets and one Moyla disposal bag, both EN 13432 biodegradable. Dimension: 140 x 160 x 40 mm Weight: 340 grams
Peepoo Kiti	1	piece	Specially designed seat/holder to be used with Peepoo toilet for sitting or squatting Colour: Green Robustness: 100 kg Material: Polypropylene Dimension: 170 x 230 x 200 mm Weight: 180 grams

Item	Quantity	Unit	Notes
Peepoo Yizi (Optional)	1	piece	Privacy tent for use in home or shelter. Could be replaced with cloth or tarpaulin if available. Colour: Purple and White! Material: Polyester Dimension: Height 2 meters, Circumference 2.6 meters at base Weight: 500 grams

* For acute phase were space for pit latrine is a challenge in dry area or for flooded areas were latrines/ toilets not accessible. Should be prepositioned stocks.

17. Solid Waste Cleaning Kit* (Good for minimum of 10 workers)

Item	Quantity	Unit	Notes
Rake	5	piece	12 tooth with steel or wood handle
Pointed Trenching Shovel	5	container	Wooden handle with round mouth blade.
Flat Trenching Spades	5	piece	Pressed steel blade 12”x10” with wooden handle
Digging bar (Miner’s bar)	2	piece	One end chisel, one end point, 3cm diameter x 1.5 meter length
Pickaxe**	1	piece	Head (chisel and point) and handle (hardwood)
Wheelbarrow	2	unit	Heavy duty with 90-150L/120kg capacity
Additional Items (optional if not available)			
Container with Lid (minimum 100 L)	1	set	Number per set depends on the number of users (e.g. Sphere 100L per 10 families)

* For solid waste clean-up, ground clearance and road surface repairs.

Item	Quantity	Unit	Notes
Rubber gloves	10	pair	Rubber, water proof, heavy duty, super grip one size
Disposable mask	100	piece	Flexible adjustment string, light weight, cone type, made from 100% polyester. Good for 10 days of work.
Wellilngton boots (rubber boots)	10	pair	High grade blend of PVC and nitrile rubber. Sizes varies.

*Used for workers or personnel protection. Could be integrated to Solid Waste Cleaning Kit or other activities that post risks to health and safety of a person relative to a work or activity.



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