

WASH Sector Strategy
For Rohingyas Influx
March to December 2018



This living document will be periodically updated.

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1 Introduction

The Violence in Rakhine State, Myanmar, which began on 25 August 2017, has driven an estimated 646,000 people to seek sanctuary in Cox's Bazar, Bangladesh – the fastest growing forced displacement crisis in the world. The speed and scale of the influx has resulted in a critical humanitarian emergency. Basic services that were available prior to the influx are under severe strain due to the massive increase in people in the area. In some of the sites that have spontaneously emerged, there is no access to water and sanitation facilities, raising the risks of an outbreak of disease. The Rohingya population in Cox's Bazar is highly vulnerable for WASH, having fled conflict and experienced severe trauma, and now living in extremely difficult conditions. The influx has also increased the WASH vulnerability of the pre-existing Rohingya population as well as the surrounding host community.

The new arrivals have joined some 212,500 Rohingya in Cox's Bazar that had fled in earlier waves of displacement. The Rohingyas are concentrated in two Upazilas of Cox's Bazar District; Ukhia and Teknaf putting an immense strain on the almost half a million Bangladeshis who live there, and the District government in particular. Infrastructure, health and water services, and the environment, especially fragile forest and land resources, are under massive pressure. Pre-existing settlements and camps have expanded with the new influx, while new spontaneous settlements have also formed. Significant numbers of new arrivals have also been absorbed into the local host community, where a total of over 78,000 Rohingya are estimated to reside. As of November 2017, there were 10 camps and settlements, ranging in size from 12,700 people in Chakmarkul, to more than 584,900 people in the Kutupalong-Balukhali Expansion Site. Along the border regions of Bandarban and Cox's Bazar, an estimated 16,200 people are now settled in groups in or near no man's land, presenting additional challenges with legal and security dimensions.

The initial Sector strategy focused on the emergency provision of water, emergency latrines and the distribution of hygiene materials, supported by promotion activities. As we move into the next phase of the emergency the strategy is changing to reflect the more settled position of the Rohingyas. Focus will change to the rationalization and improved construction of water points the construction of semi-permanent toilets, operation and maintenance of these facilities including sludge treatment, a greater emphasis on hygiene and community engagement, and the initiation of solid waste disposal. This approach means that, as and where appropriate, facilities constructed should be more durable and reduce the need for further costly operation, maintenance and reinvestment. The overall approach will start to begin to put the refugees at the center of the programme rather than the top down approaches used to date.

This strategy is intended to assist partners to implement in an efficient and effective way the WASH component of the Joint Response Plan being issued by the ISCG on 1 March 2018. It is in many cases the minimum expected of partners and can always be exceeded by partners. It is also intended to be a dynamic document and will be updated from time to time throughout the year as the situation on the ground changes or experience dictates.

2 WASH Context Overview and Key Needs

Without immediate, adequate water, sanitation and hygiene, preventable disease outbreaks will continue and worsen. Acute watery diarrhea is endemic in Bangladesh, and a dangerous combination with the high malnutrition rates of Rohingya populations. At the current density of population, any outbreak has the potential to kill thousands. Within the new settlements that have emerged since August, there were no pre-existing WASH facilities including latrines, water points or bathing places. Emergency facilities that were put up quickly in the first phase of response have been of low quality, necessitating

decommissioning and retrofitting. To avoid open bathing and defecation, women wash inside their shelters and reduce their food intake to defecate less frequently and during the night. They often also face unsafe access to wash facilities and to distribution points.

Improved water quantity and quality is a priority. Thousands of poorly installed shallow tube-wells have contaminated shallow aquifers, with major impacts on health and nutrition status. In the rush to provide water, many private contributors funded shallow tube-wells, using overburdened contractors without proper supervision who were often willing to cut corners. This resulted in thousands of poorly positioned and low-quality water installations that present a major health risk. Of 5,731 tube-wells, some 21% are estimated to need immediate rehabilitation or replacement. As pressure increases on the aquifers in Ukhia, safe surface water solutions will be required to sustain populations. In Teknaf, a lack of accessible ground water has meant that supply has mostly been through surface sources or seasonal wells, both of which are rapidly depleting during the dry season leading to water shortages for Rohingya and host communities alike. Prior to the August influx, assessments showed that 92% of Rohingya in host communities had no access to safe water, underlining the need for scaled up WASH interventions in host communities.

As of the end of January 2017, more than 30% of latrines were located less than 10 metres from a water source, and 17% of emergency latrines were full or not functioning. Lack of available land is putting a severe strain on effective sludge management. As sludge management is insufficient, and latrines with shallow pits are located close to water points, so water from shallow tube-wells are easily contaminated. Solid waste is often dumped in narrow spaces between shelters. There are limited primary collection centers for solid waste. For safe excreta and solid waste management, finding suitable land has been a challenge. An effective solid waste management system needs to be put in place urgently to improve overall hygiene and reduce the risks of disease outbreak and flooding. The risks have only grown with increasing numbers crammed in the Kutupalong-Balukhali Expansion Site.

Combined with these factors, sector capacity in hygiene promotion has been generally poor, with few overall numbers of hygiene promoters and a focus on didactic message dissemination, with a lack of formative research on priority risks per area. Community engagement and participation in siting and design of WASH infrastructure has been limited in the rapid scale up of activities. Hygiene practices are still poorly understood, and there remain significant language and communication challenges for hygiene promotion staff in communicating key information in Rohingya and through visual images that are appropriate for the context. The current situation poses a real threat for AWD and other WASH related disease outbreaks, and incidences of Hepatitis A and E have already been reported by the Health Sector.

3 Key Public Health Risks

With the support of the WASH sector and in coordination with the Health and Nutrition sectors, the WASH partners should regularly be informed on WASH, health and nutrition data to adapt on a timely and effective manner their WASH response and better target population at risks if needed. (E.g.: geographical location, or specific groups as pregnant women for Hepatitis E).

WASH partners should reinforce their relationship with the health actors in their intervention zone to ensure that a joint response is provided to public health risks. It is expected that WASH partners will work closely with the health partners to have a better understanding of the population at risks and transmission pathways.

Rumours about diseases and treatment processes should be documented in order inform both WASH and health sector partner activities and information sharing.

The table bellows gives basic information about the most likely WASH related public health risks as well as additional activities that should be undertaken by the sector in the case of an outbreak. This would be in addition to all normal activities which will be undertaken as part of the overall strategy to reduce risk.

Diseases	Key information	Expected WASH partners' actions
Acute Watery Diarrhea	<p>Caused by the bacterial <i>Vibrio Cholerae</i>. Transmitted via the faeco-oral route. Approximately 80% of infected people are asymptomatic (can transmit the bacteria but show no signs of cholera infection). Severe cases will need rapid treatment with intravenous fluids and antibiotics.</p> <p>It takes between 12 hours and 5 days for a person to show symptoms after ingesting contaminated food or water. AWD affects both children and adults and can kill within hours if untreated</p>	<p>WASH Partners to train WASH teams including outreach workers on symptoms and transmission pathways.</p> <p>WASH Partners scale up water treatment including chlorination at point of use and household water treatment, with the distribution and promotion of household water treatment.</p> <p>WASH Partners strengthen handwashing with soap practices through the promotion, provision of soap and installation of handwashing stations in public places, including restaurant and markets.</p> <p>WASH Partners with the Community Health Workers (CHW) initiate a dialogue with communities to identify individual and collective measure to block transmission pathways and enhance health-seeking pathways.</p> <p>WASH Partners with the CHW support the direct contacts of AWD affected persons to enhance health-seeking practices.</p>
Hepatitis E	<p>Hepatitis E is a liver disease caused by infection with a virus known as hepatitis E virus (HEV).</p> <p>The virus is transmitted via the faecal-oral route, principally via contaminated water.</p> <p>The incubation period following exposure to the hepatitis E virus ranges from 2 to 10 weeks, with an average of 5–6 weeks. The infected persons are believed to excrete the virus beginning a few days before to around 3-4 weeks after the onset of disease.</p> <p>During outbreaks of hepatitis E, the disease attack rates are the highest among adolescents and young adults in the age group of 15–40 years.</p> <p>The disease appears to be somewhat more common among men than among women.</p> <p>HEV infection in pregnant women is associated with an increased likelihood of symptomatic disease, fulminant</p>	<p>WASH Partners to train WASH teams including outreach workers on symptoms and transmission pathways.</p> <p>WASH Partners scale up water treatment including chlorination at point of use and household water treatment, with the distribution and promotion of household water treatment.</p> <p>WASH Partners with the Community Health Workers (CHW) initiate a dialogue with pregnant women to enhance health-seeking practices.</p>

	hepatic failure and death, as compared with men and non-pregnant women.	
Malnutrition	<p>Preliminary results of Standardized Monitoring Assessment for Relief and Transition (SMART) Surveys currently reveal a Global Acute Malnutrition (GAM) prevalence of 24.3%, which is above the World Health Organization emergency threshold level of 15%. The surveys also show 7.5% prevalence of Severe Acute Malnutrition (SAM).</p> <p>All surveys indicate a dangerously low level of exclusive breastfeeding, with less than 16% of children aged 6-23 months achieving a minimum acceptable diet that make them vulnerable to malnutrition and infectious diseases. Additionally, the presence of aggravating factors could exacerbate the already poor nutrition state of the most vulnerable young boys, girl and adolescent girls. These include the increasing cases of diarrhea, Acute Respiratory Infection (ARI) and anemia.</p>	<p>WASH Partners to train WASH teams including outreach workers on symptoms.</p> <p>WASH Partners with the Nutrition treatment center ensure access to WASH kits after the discharge of the patients.</p> <p>WASH Partners target and support the household with “caretaker – children under 2 years” to ensure safe excreta management, and hygiene practices for the child.</p> <p>WASH will work with the Nutrition Sector to assure hygienic food handling in the household targeting women.</p>
Fecal-oral diseases	<p>WASH Partners to train WASH teams including outreach workers on symptoms and transmission pathways.</p> <p>Regular WASH services at agreed standards.</p> <p>WASH Partners strengthen handwashing with soap practices through the promotion, provision of soap and installation of handwashing stations in public places, including restaurant and markets.</p> <p>Quick response to diarrhea outbreaks to control spread: Identification of water source affected, Remedial actions, Information dissemination</p>	
Malaria	<p>Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes. It is preventable and curable.</p> <p>Young children and pregnant women are particularly vulnerable to malaria infection and deaths.</p>	<p>WASH Partners to train WASH teams including outreach workers on symptoms and transmission pathways.</p> <p>Reduce mosquitos breeding areas with appropriate drainage of WASH facilities.</p>
Communicable diseases (non-	<p>WASH Partners to train WASH teams including outreach workers on symptoms and transmission pathways.</p> <p>WASH Partners strengthen handwashing with soap practices through the promotion, provision of soap and installation of</p>	

WASH related)	handwashing stations in public places.
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4 Guiding Principles

- WASH partners respect [Humanitarian Principles](#), the [Core Humanitarian Standard](#) and the ‘do no harm’ approach, in their interventions.
- WASH partners will actively participate in the sector and report through the 4W and other mutually agreed upon systems.
- WASH partners adhere to [national WASH operational guidelines for WASH in emergencies](#), where adaptation to local realities is required, as decided by the sector.
- WASH partner interventions will address the ‘three prongs’ of WASH (Water, Sanitation, and Hygiene), either as an integrated program, or in collaboration with other partners.
- WASH partners will take responsibility for the operation and maintenance of all facilities provided by them or ensure their handing over to a competent authority or another humanitarian organization working in the same area until such time as the community is prepared to undertake it.
- WASH partner interventions will integrate with the strategic and operational approaches of other sectors, particularly Shelter, Camp Coordination and Camp Management, Health, Nutrition, Protection, including GBV and Child Protection & Livelihoods.
- WASH partner interventions will seek to improve good governance, human rights, gender equality, age appropriateness, and environmental protection in all aspects of WASH program planning.
- WASH partner interventions will incorporate, as a minimum, the priority activities outlined below to attain the targets.
- WASH partners will do their utmost to ensure the equitable provision of services between Rohingyas in camps and Rohingyas in host communities as well as with the host communities themselves.
- WASH partners will do their utmost to avoid duplicating activities in areas already served, and to intervene in areas where there is a lack of active WASH partners.
- All activities/implementation need to be gender/age/disability sensitive

5 Protection Risks and Strategic Principles

Beyond the obvious importance of meeting basic sanitation needs and preventing disease, access to adequate and appropriate WASH facilities plays an important role in the protection and dignity of affected populations, particularly girls and women. Providing water and sanitation facilities alone will not guarantee their optimal use. Only people centred, participatory approach at all stages of the response can help ensure that an adequate and efficient service is provided.

With the support of the WASH sector and in coordination with the protection sector, the WASH partners will regularly seek out the key protection issues to adapt on a timely and effective manner their WASH response to better target populations at risks as needed. WASH partners will reinforce their relationship with the protection actor in their intervention zone to ensure that a joint response is provided on key protection risks related to WASH services.

The WASH partners have agreed that **5 minimum commitments** should be observed in all their humanitarian WASH programmes to ensure that the distinct assistance and protection needs of the

affected population are met. These commitments, centred on people, aim at improving the quality and efficiency of the WASH response programmes, and at ensuring that key issues are taken into consideration by all partners, such as gender, gender based violence, child protection, disability, and age. The respect of these minimum commitments all along the humanitarian programme cycle reinforces the accountability of the WASH partners to the affected population. These commitments are as follows:

1. Location of WASH facilities and their design are determined through separate consultations with girls, boys, women, men, including older people and persons with disabilities in order to ensure equitable access and minimize risks of violence
2. WASH facilities are designed to respond to distinct dignity, safety and access needs (i.e. separated by sex, locks, lights, pictograms, specific design for people with disability...).
3. Girls, boys, women, and men, including older people and those with disabilities have access to feedback & complaint mechanisms so that corrective actions can address their specific protection and assistance needs
4. Monitoring and evaluation systems of WASH partners and WASH sector include the information on the access and use of WASH facilities, including on how safe people feel using WASH facilities
5. Specific focus group discussions are organized for women and girls during the needs assessment phase and across the response

Along with the commitments a **self-assessment questionnaire has been developed** made up of 25 questions referring to the 5 commitments and divided into 4 blocks respecting the phases of the humanitarian programme cycle: assessment, design, implementation, and response monitoring. To analyze results from field missions or from cluster partners, a traffic light system was set.

NAME OF THE ORGANISATION	Assessment	Design	Implementation	Response monitoring
Organisation U				
Organisation V	N/A			
Organisation W				
Organisation X			N/A	
Organisation Y				
Organisation Z				

All the organizations respect the minimum commitments	GREEN
More than half of the organizations respect the minimum commitments	ORANGE
Half or less half or less of the organizations respect the minimum commitments	RED

It can help identify **which organisation** requires support (rows) or **which phase of the programme cycle** requires particular attention. An additional level of analysis can help determine **which groups** are falling through the cracks (children, adolescent girls, PwD, etc)

6 Building Long-term Capacity and Reducing Environmental Risks

6.1 Informing the response and tracking the infrastructures installed

Information management will be enhanced in order to interalia, inform on areas of capacity required:

- By coding all water points with a unique and harmonized coding system for existing and future water sources, including GPS coordinates
- By developing tools for enhanced decision making, harmonized and shared with the sector. This includes GIS mapping of existing water points, water source/hydrology maps and context specific water supply options mapping.
- By developing tools to monitor the desludging and fecal management system with a coding system for latrines that must be desludged.
- By building institutional Capacity, providing Awareness and Orientation of Sector partners on coding systems, surveillance and monitoring of water quality and quality of construction, water treatment procedures and use of harmonized certification checklists to improve quality of water supply facilities provided.

This requires that **all stakeholders share information and comply with guidance from sector coordination in relation to reporting, information management, coding systems.**

6.2 Taking actions to protect natural resources

The WASH sector is promoting the following measures:

- Climate and other hazard resilience measures will be incorporated in all water infrastructures (tanks, reservoirs, dams, pipe-networks) for flood/landslides and other hazards and or mitigated alternatives in case of any breakdown.
- Design and development of surface and rain water harvesting infrastructure (dams, reservoir, etc.) should include adaptation & seasonal rehabilitation (e.g. rebuilding the dam at the start of dry season and lowering spillway or progressive collapse during rainy season. Erosion control, land protection, adaptable maintenance and water sharing for production & farming is integrated.
- All water supply options should incorporate the resilience marker during the planning and implementation stage.
- An overarching Environmental Impact Assessment will be undertaken.

Considering the major increase of population in this area and the known fragility of the second aquifer, the WASH sector under the leadership of the Department of Public health (DPHE) will ensure that:

- A comprehensive study and monitoring of water resources including ground water and surface water is undertaken
- A coordinated effort is undertaken to compile all relevant past and ongoing geophysical and hydrogeological studies conducted in the area
- Geophysical and hydrogeological surveys are harmonized and used. A proposal from IWM is under consideration to model the hydrogeology of the area.
- A comprehensive mathematical water resource modelling is developed and includes ground water vulnerability and alternative to ground water such as rain and surface water feasibility.
- Surveys and feasibility assessments of surface and rainwater sources to facilitate sustainable water supply and reduce groundwater depletion are undertaken. It will help to define the need to have rain water catchment (dams) to help on the recharge of aquifer and/or use for water supply
- Bangladesh Water Development Board will site three monitoring wells at locations selected by the sector for monitoring water quality and water level fluctuations
- UN agencies and/or technically capacitated government department/NGOs should support the installation of a system of probes to monitor the aquifer and potential salt water intrusion
- Increase the use of surface water by at least by 10% in 2018, and investing in rain water harvesting, water resource management, and water infrastructure (dam, reservoir, sluices)

7 Preparedness and Contingency Planning

National Disaster Management Institutional Framework

The National Disaster Management Institutional Framework in Bangladesh is outlined in the Disaster Management Act, 2012 and includes a series of inter-related institutions at both national and sub-national levels to ensure effective planning and coordination of disaster risk reduction (DRR) and emergency response management.

Under the disaster management institutional framework, the different entities at national level and at sub-national levels and their functions are narrated below.

At the national level

1. National Disaster Management Council (NDMC) headed by the Honorable Prime Minister to formulate and review the disaster management policies and issue directives to all concerns.
2. Inter-Ministerial Disaster Management Co-ordination Committee (IMDMCC) headed by the Hon'ble Minister in charge of the Ministry of Disaster Management and Relief (MoDMR) to implement disaster management policies and decisions of NDMC/ Government.
3. National Disaster Management Advisory Committee (NDMAC) headed by an experienced person having been nominated by the Honorable Prime Minister with 8 members of parliament as its members advises the ministry and DDM to formulate management policies to face the disasters.
4. National Platform for Disaster Risk Reduction (NPDRR) headed by Secretary, MoDMR and DG, DDM functions as the member secretary. This platform coordinates and provides necessary facilitation to the relevant stakeholders.
5. Earthquake Preparedness and Awareness Committee (EPAC) headed by Honorable minister for MoDMR and DG, DDM act as member secretary.
6. Cyclone Preparedness Program Implementation Board (CPPIB) headed by the Secretary, MoDMR to review the preparedness activities in the face of initial stage of an impending cyclone.
7. Cyclone Preparedness Programme (CPP) Policy Committee headed by Honorable Minister, MoDMR and Secretary, MoDMR act as member secretary. Disaster Management Training and Public Awareness Building Task Force (DMTATF) headed by the Director General of Department of Disaster Management (DDM) to coordinate the disaster related training and public awareness activities of the Government, NGOs and other organizations.
8. Focal Point Operation Coordination Group of Disaster Management (FPOCG) headed by the Director General of DDM to review and coordinate the activities of various departments/agencies related to disaster management and also to review the Contingency Plan prepared by concerned departments.
9. NGO Coordination Committee on Disaster Management (NGOCC) headed by the Director General of DDM to review and coordinate the activities of concerned NGOs in the country.
10. Committee for Speedy Dissemination of Disaster Related Warning/ Signals (CSDDWS) headed by the Director General of DDM to examine, ensure and find out the ways and means for the speedy dissemination of warning/ signals among the people.

At sub-national levels

1. District Disaster Management Committee (DDMC) headed by the Deputy Commissioner (DC) to coordinate and review the disaster management activities at the District level.

2. Upazila Disaster Management Committee (UzDMC) headed by the Upazila Chairman to coordinate and review the disaster management activities at the Upazila level.
3. Union Disaster Management Committee (UDMC) headed by the Chairman of the Union Parishad to coordinate, review and implement the disaster management activities of the concerned Union.
4. Pourashava Disaster Management Committee (PDMC) headed by Mayor of Pourashava (municipality) to coordinate, review and implements the disaster management activities within its area of jurisdiction

Contingency stocks of hygiene kits and chlorine will be held in Cox's Bazar as per the AWD and Cyclone preparedness plans.

In the event of an AWD outbreak the hygiene component will be intensified by all partners in line with the WASH [AWD Preparedness and Response plan](#).

Chlorination using HH water treatment or other measures such as bucket chlorination will be implemented in localities where there have been high reports of AWD or other early warning signs for disease outbreak. The WASH partners need to have some contingency capacity to quickly and efficiently scale-up water treatment if an outbreak occurs

The sector will enhance its contribution to cholera response preparedness by facilitating treatment of water points, monitoring of FRC at source and household level, and the surveillance of *E.coli* levels

8 Coordination Arrangements

The Department of Public Health Engineering (DPHE) is leading the sector response co-chair by ACF and UNICEF providing oversight and continued support and monitoring of the response. The aim of the coordination is to strengthen partnerships, and the predictability and accountability of international humanitarian action, by improving prioritization and clearly defining the roles and responsibilities of humanitarian organizations. Below are the core [functions of the sectorial coordination](#):

- Supporting service delivery by providing a platform for agreement on approaches and elimination of duplication
- Informing strategic decision-making of the ISCG (Inter Sector Coordination Group) and HCCT for the humanitarian response through coordination of needs assessment, gap analysis and prioritization
- Planning and strategy development including sectoral plans, adherence to standards and funding needs
- Advocacy to address identified concerns on behalf of sector participants and the affected population
- Monitoring and reporting on the sector strategy and results; recommending corrective action where necessary
- Contingency planning/preparedness/national capacity building where needed and where capacity exists within the cluster.
- Ensuring that Accountability to Affected population (AAP) is fully integrated in the programme cycle.

The sector will set up beginning of 2018 a Strategic Advisory Group which will support key strategic guidance and discussion.

8.1 Decentralization of the WASH sector at camp level:

Decentralization of coordination involves three levels; the overall coordination described above, mid-level coordination currently carried out by IOM and UNHCR, (in the same areas that they have responsibility for site management/ site development), and [zonal/camp focal points](#). This system is established to decentralize the coordination and ensure a better gap analysis and monitoring of the response. Issues

arising on the ground can in most cases be mediated and solved by the zonal/camp focal points. Issues beyond their capacity are referred to the midlevel focal points. The midlevel focal points also serve to communicate important decisions taken by the sector to the zones as well as to assist in the operationalization of those decisions and work directly with the site planners and site managers to ensure sufficient WASH facilities are in place in new settlements.

8.2 Inter-sector coordination

Sector	Responsibilities of the WASH sector
Nutrition	Technical advice on WASH infrastructure in Treating Feeding Center Target areas and households where malnourished children are identified (see section 4) Include WASH indicator in SMART survey Coordination around hygiene/nutrition messages
Health	Health sector to provide Health statistics to WASH to monitor response and address specific issue related to WASH. Local coordination at zone level to address WASH related diseases and better target the vulnerable groups (to specific diseases) Develop a joint contingency plan for AWD or other communicable diseases. Technical advice on WASH infrastructure in Health center Coordination around hygiene/health messages
Site Management/ Site Development	Joint camp planning to ensure sanitation corridors and comply with WASH minimum requirement Ensure adequate space for all WASH facilities including sludge and solid waste management Support Camp managers and CiCs to coordinate at the camp level Ensure that drainage of all WASH facilities connect to main drains
Shelter	Discussion around possibility to have shelter constructed with latrine and bathing facilities Harmonize upgrading of family toilets and bathing facilities and shelter
Protection	Identified potential protection issue related to WASH Address feedback related WASH issues collected by the protection partners Hygiene promotion intervention in Child Friendly spaces and women friendly spaces Harmonize contents and distribution of the dignity kits and MHM kits, post distribution and information sharing regarding MHM Joint safety audit to identify and address risks Referral to GBV service
Education	Hygiene promotion in school and learning centers – Explore opportunities to develop portable skill curriculum for Hygiene Promoters Technical advice on WASH infrastructure in school

Communication with communities	Address feedback related WASH issues collected by the CWC partners
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9 Strategic Objectives

- Ensure effective, sufficient and continuous provision of life saving water and sanitation services for targeted men, women, boys and girls
- Ensure that all targeted women, men, girls and boys have the means and are encouraged to adopt individual and collective measures in order to health seeking behaviors and to mitigate public health risks
- Ensure that all WASH assistance promotes the protection, safety and dignity of targeted people, and is used equitably to men, women, boys and girls

10 Monitoring framework

Objective 1: Ensure effective, sufficient and continuous provision of life saving water and sanitation services for targeted men, women, boys and girls						
Indicator	# People In need	Base Line	Target	Data Source/ Collection Method(s)	Organisation(s) responsible for data collection	Frequency of reporting
# of targeted people in settlements benefitting from safe water of agreed standards and meeting demand for domestic purpose	1,052,495		1,052,495	Water points mapping 4W Water quality monitoring Key informant interviews Household Survey	REACH WASH Partners DPHE / WHO NPM UNICEF / UNHCR	Monthly
# of targeted women, men, children in settlements who are benefitting of functional latrines of agreed standards	1,052,495		1,052,495	Facilities mapping 4W	REACH WASH Partners	Monthly
# of targeted people in host communities who are benefitting from water and sanitation services	208,245		208,245	4W Water quality monitoring Key informant interviews Household survey	ASH Partners DPHWE / WHO NPM UNICEF	Monthly

Under the leadership of the sector coordinator – DPHE and co-coordinators, third party monitoring systems will be operationalized to support adherence to agreed minimum requirement by all stakeholder.

Objective 2: Ensure that all targeted women, men, girls and boys have the means and are encouraged to adopt individual and collective measures increasing health seeking behaviors to mitigate public health risks						
Indicator	# People In need	Base line	Target	Data Source/ Collection Method(s)	Organisation(s) responsible for data collection	Frequency of reporting

Objective 2: Ensure that all targeted women, men, girls and boys have the means and are encouraged to adopt individual and collective measures increasing health seeking behaviors to mitigate public health risks						
% of targeted women, men, boy and girls able to demonstrate at least 3 critical hygiene practices	N/A	TBD	70%	KAP Survey Household Survey Key informant interview NPM	UNICEF UNHCR IOM	Every 3 months
% of targeted women, men, boy and girls who are satisfied with the hygiene related information shared	N/A	TBD	80%	Satisfaction Survey Feedback/Complaints mechanisms NPM	CWC IOM	Every 3 months
# of targeted households who have received a WASH Hygiene kit and/or a top up kit and/or a voucher in the last three months	1,052,495		1,052,495	4W	WASH partners	Monthly

Objective 3: Ensure that all WASH assistance promotes the protection, safety and dignity of targeted people, and is utilised equitably by men, women, boys and girls						
Indicator	# People In need	Base line	Target	Data Source/ Collection Method(s)	Organisation(s) responsible for data collection	Frequency of reporting
% of targeted women, men, girls and boys including older people and those with disabilities who are satisfied with the WASH response.	N/A	TBD	80%	Satisfaction survey Feedback and complaints mechanisms NPM	UNHCR IOM	Every 3 months
# of targeted women and girls of reproductive age who have their menstrual hygiene needs met	258,000		258,000	4W	WASH partners	Monthly
% of WASH partners respecting the five minimum commitments regarding safety and dignity of affected population in WASH programming	N/A	TBD	75%	Survey (5 minimum commitments tools developed by GWC)	WASH Sector coordination platform	Every 3 months

11 Hygiene promotion

Over the next 10 months, Hygiene Promotion will shift away from didactic message dissemination to approaches based on dialogue and interaction with affected populations.

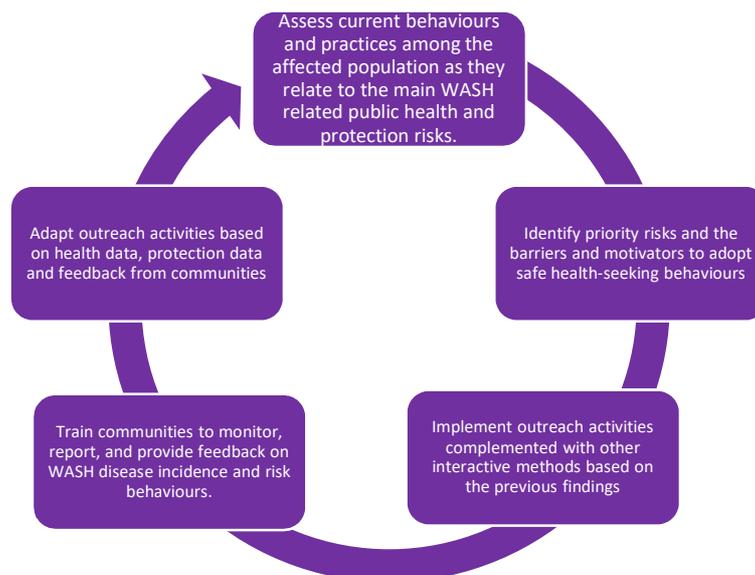
The sector will seek to widen its understanding of community structures and capacities, both in camps and host communities, and monitoring changes in these to adapt activities on the basis of needs and to ensure the appropriateness of the hygiene promotion model selected.

Given that Rohingya language is a verbal language, the backbone of the hygiene strategy will be face to face dialogue with multilingual visual materials in Rohingya, Burmese, Bangla and English by volunteers providing hygiene sessions to both men and women, as well as boys and girls, and responding to the queries of the population. In addition, the hygiene promotion activities will be reinforced by mobilizing civic and religious leaders, by providing a dialogue with radio discussion groups and other interactive methods.

WASH partners will work with the Education Sector and the Child Protection subsector to raise awareness and mobilize schools, and religious schools (if available) children/peer-to-peer networks in temporary learning spaces (TLS), child friendly spaces and schools.

As the situation on the ground remains highly fluid and the phase in which a given settlement changes day to day and week to week the hygiene response will need to be similarly fluid and will vary not only over time but also from zone to zone.

All hygiene intervention will be based on the following model:



. Changes in behavior will be monitored through proxy indicators. In parallel, the incidence of WASH related diseases will be monitored and the results of this monitoring feedback to the Sector so programs can be adapted and adopted to changing circumstances.

11.1 Key principles

Hygiene Promotion is everybody's responsibility, regardless of age, sex, or religion.

Targeting participatory methodologies/activities based on the target groups is paramount for the effective uptake of safe practices. (E.g. Children react different triggers and are catalyst for change. It could be interesting to work specifically with groups of children, and children clubs/groups can be created)

Targeting appropriate audience is key to address public and protection risks. For example, to support the prevention of malnutrition, targeting the dyad “caretaker – children under 2 years old” will be key.

The mode and frequency of the messaging must be effective and must be supported by access to WASH facilities and supplies.

To analyse the impact of behaviour change intervention, all the partners are highly encouraged to carry out different assessments like; baseline & endline survey in coordination with the WASH Sector.

Based on the constructive and periodical feedback from the CWC working group and the GBV sub-sector, which will be actively sought, the programme will be modified.

The WASH sector partners have agreed to have two hygiene promotors, one male and one female, for every 200 families (1000 individuals).

11.2 Community engagement

A sound understanding of the diversity and varied vulnerabilities within affected communities is vital. Resources must be devoted to understanding community perspectives and advocating for community-focused interventions. Specialists, such as anthropologists and epidemiologists, may be required for information to be collected, documented and used effectively

One-size-fits-all models of community engagement are not the best solution. It is better to recognize the potential capabilities of communities in each situation and provide context-specific support. This allows communities to take action to protect themselves using a ‘menu’ of different strategies, developed using a community-led approach. To do this effectively, key groups (e.g. male and female leaders, traditional healers, religious leaders, Majhis, Community elders, youth and children) need to be identified. It is expected from WASH partners to identify community capacity and develop an appropriate community led approach.

The information given to communities must be prioritized to ensure that the crisis affected population understands and uses the most effective protective actions.

WASH partners will work with the Site Management sector to:

- to help develop an effective female civic and religious leadership, the female quoran citing groups Hafzah and the CiCs
- to establish camp WASH committees in place when and only when relevant and ensure that women/children voices are included

11.3 Identified practices for improvement in 2018

As mentioned above, this can evolve based on the incidence of WASH related diseases and/or at risks practices identified within vulnerable groups or communities.

Household Water Treatment	<p>The use of household water treatment as disinfection tablets (Aquatabs®) or coagulation/disinfection tablets are strongly recommended at household level.</p> <p>Activities include:</p> <ul style="list-style-type: none"> - The provision / distribution of household water treatment (<i>At least for 20 liters /day/household for a period of 2 months</i>) - The demonstration of using the household water treatment - The promotion of household water treatment through outreach activities - The monitoring of free residual chlorine at household level
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	<ul style="list-style-type: none"> - Understanding barriers to usage if low uptake <p>Household water treatment for a month should be distributed to patients discharged with communicable diseases and/or malnutrition to enhance its use at household level. Specific sessions should go along with the donation.</p>
Clean and Safe Water for all	<p>Promotion with head of household to use only potable water for drinking purpose and to use covered containers for water storage and transport. This will be accompanied with demonstration, outreach activities, cleaning campaign, monitoring at water points and at household level to identify potential blockages.</p> <p>Each household should have at least 2 specific containers for water transport and storage, and its monitoring should be done at least every 3 months. Distribution (in-kind or vouchers) could complement NFI distribution if needed.</p>
Handwashing with soap	<p>Public areas should have functional handwashing stations with soap including distribution points, markets, restaurants, child friendly spaces and people should be <i>strongly encouraged</i> to use them.</p> <p>In parallel, promotion of handwashing with soap at critical times will continue through outreach activities. Critical times include:</p> <ul style="list-style-type: none"> - after defecation; - before eating; - before food preparation; - after cleaning a child's bottom; and - before breastfeeding. <p>Use positive and motivating messages to increase uptake of handwashing with soap practices at household level. Each household should have always soap at household level, through in-kind or vouchers distribution.</p> <p>Soap for a month should be distributed to patients discharged with communicable diseases and/or malnutrition to enhance its use at household level. Specific sessions should accompany the donation.</p>
Elimination of open defecation	<p>Use of latrines:</p> <p>Outreach activities should promote the use of latrines or any safe excreta containment (potties, bed pans) for defecation.</p> <p>Assistance will be provided to families where family latrines can be build and after construction Hygiene Promoters will engage with those families to organize themselves to correctly use and maintain them.</p> <p>Children's faeces:</p> <p>Seek input from parents, carers, and children when choosing appropriate containment, and disposal methods, for children's faeces.</p> <p>Outreach activities should target children in age to use latrines to improve their use. Potential blockages should be address through adapted design if required (smaller holes, smaller cubicles...)</p> <p>Specific needs:</p>

Identify persons with disabilities or those with mobility limitations (including older people), those confined to a bed or a wheelchair to provide additional items if needed, such as extra soap, cloth, plastic covers for mattresses, bed pans...

Consider protection risks and other special needs especially women and children such as menstruation to access and use latrines in the camp.

To mitigate risks, consult with girls, boys, women and men separately, reflect their opinion and monitor and address any risks throughout implementation as in the 5 minimum commitments.

11.4 Access to essential hygiene items

The first phase will be approximately three months from arrival and will focus on the provision of a full hygiene kit per household, the practical use of its contents as well as the practical use and maintenance of facilities.

It is expected from all partners who have distributed to:

- Monitor the affected population and seek feedback to determine if hygiene items have reached the most vulnerable and if they are appropriate; durable; and are being used.
- Carry out gender and age-sensitive post distribution monitoring to assess the use overall satisfaction and rate of return or sale of the hygiene items.
- Set up safe and responsive feedback mechanisms that men, women, and children of all ages can use.

The partners have agreed to standardize the contents of the hygiene kit which will be good for 3 months and then provide a replenishment (Top up kit of consumable items) every three months. Market based approaches can be established to improve access to hygiene items. Monitoring should apply the same way to ensure that the household have the means to adopt safe hygiene practices.

Hygiene Kits for new arrivals				Replenishment kits for 3 months			
Description	Detail	#	Unit	Description	Detail	#	Unit
Bathing Soap	100 gr	39	Pcs	Bathing Soap	100 gr	39	Pcs
Laundry Soap	130gr	21	Pcs	Laundry Soap	130gr	21	Pcs
Nylon rope	10 mts	1	Pcs	Toothbrush		5	Pcs
Nail Cutter		1	Pcs	Toothpaste	100gr	3	Pcs
Non-Disposable Nappy		6	Pcs	Gamcha/Towel		2	Pcs
Plastic Badna	1-1.5 lts	1	Pcs	Sandals (Child)		2	Pairs
Potty		1	Pcs	Sandals(Adult)		2	Pairs
Plastic Bucket with lids	12 lts	1	Pcs				
Aluminium Pitcher	15-18 lts	2	Pcs				
Jug, plastic	2-3 lts	1	Pcs				
Mugs		5	Pcs				
Safety Pin Clips		6	Pcs				

12 Menstrual Hygiene and Bathing Facilities

Girls of reproductive age and women are facing lots of barriers managing menstruation given the loss of privacy and safety. The WASH partners are aiming to ensure that women and girls of reproductive age have their menstrual hygiene needs met.

While some components are specific to menstruation (such as the provision of clothes), most components of MHM are concerned with improving the safety, privacy and dignity with which women and girls are living. The MHM needs for which the WASH partners will provide sufficient resources are:

- In-depth analysis of MHM practice: In order to provide culturally acceptable items, hygiene promotion message and better facilities, WASH actors in collaboration with GBV actors and others, will conduct an assessment to understand better the MHM practices and the taboos around MH.
- Appropriate materials and supplies: Providing cotton cloth pad, underwear and soap
- Information: Providing practical information on wearing, washing and disposing provided materials
- Facilities: Ensuring private female friendly toilets and washrooms at home or communal spaces
- Safety: Ensuring a secure environment; ability to access facilities of choice throughout the day and night
- Privacy: Ensuring ability to privately manage menstruation including to wash, dry and/or discretely discard disposable materials.
- Dignity: Harmful cultural norms will be addressed if identified; access to information will be provided about puberty and reproductive health; engagement with boys & men

12.1 Access to essential hygiene-related materials for women and girls of reproductive age

The WASH partners will ensure equitable and dignified access to distributions of hygiene-related materials for women and girls of reproductive age every three months; ensure materials are appropriate for users through consultations. The provision of MHM will be included in any market based approaches adopted by the sector.

Description	Detail	#	Unit
Cotton Cloth Pad	4 sq. meters per person per year	5	Pcs
Panty(TAI)	6 per person per year	3	Pcs
Laundry Soap	130gr	6	Pcs
1 - Enclosed bag		1	Pcs

12.2 Bathing facilities for women and girls of reproductive age

The WASH partners will:

- Design and build appropriate onsite small scale connected drainage systems for grey water management (assuming a percolation test has been carried out), and/or integrate it into the overall drainage plan prepared by and in coordination with site planners, the shelter sector and site management.
- Decide the number, location, design, safety, appropriateness and convenience of communal and family bathing facilities in consultation with the users, particularly women, adolescent girls

- It is recommended to install a very small concrete slab in each shelter and distributing an additional piece of tarpaulin for HH level bathing facility. Partners to ensure and educate community for proper drainage of this water into the central drain (where applicable)
- If bathing at the household level is not possible then separate communal facilities for men and women shall be needed.
- Promote outreach to men to ensure they are not using or entering communal bathing facilities for women and girls.
- Provide outreach messaging to women and girls to promote their use of bathing for women and girls.
- Hygiene Promoters will follow up once the facilities are provided.
- Regularly monitor the facilities and the access and use of the facilities, including on how safe people feel using the facilities and address the identified risks immediately.

13 Excreta Disposal and Management

13.1 Minimum requirement

Preferred option: One latrine shared by 2 or 3 families

Appropriate numbers of people per cubicle: Segregated latrines (female, children and male) with a ratio of 1:20 (Be careful, the number of women is *higher than men*)

Design minimum requirement:

- All latrines built will follow approved WASH [Sector-DPHE guidelines and thematic designs](#) available on WASH sector website.
- Sitting and design of the latrines should be selected based on a consultation with men, women and children concerned
- Distance in between water source (downhill/downstream from any ground/surface water source) & latrine should be minimum 30 meters away; if not possible, at least 10 meters (30 feet) distance, downhill, and downstream
- Avoid locating latrines in flood prone areas or raise them above the flood level; locate them in a safe, lit location if possible
- Latrines should be as close to users as possible (< 50 m away from users' home); consult with users to choose a convenient and safe location)
- All latrines should have a lock to ensure privacy
- Communal female toilets must be lockable from the inside, be roofed, have a wall from the ground to the roof and must be screened.
- Communal female toilets block must be separated from the male toilets. Where the space does not allow a separate block, appropriate measures to ensure privacy i.e. entrance in a different side, screen/fence for women etc. must be taken. The appropriate measures must be determined in consultation with women and girls.
- Latrine technologies should consider the principle of durable solution/on-site solution and innovative ideas are always appreciable (in consultation with WASH Sector-DPHE)
- Siting of the latrines should be above high flood level and on stable ground. Care should be taken regarding slopes to avoid damaging the facility due to land sliding
- Regularly monitor latrines and the access and use of the latrines, including on how safe people feel using the facilities and address the identified risks immediately

Operation and maintenance:

- Safety and cleaning materials should be provided for the maintenance of communal latrines
- Systems should be established by the organization to ensure daily maintenance of the communal latrines. Consultation will be done with women and men concerned.
- All communal toilets must have a handwashing facility and appropriate communal management will be set up

Desludging minimum requirement:

- Provide protective clothing and immunization to people who deal with the desludging system
- All latrines designs need to be designed to be easily desludged
- Latrines pits full at 80% will be emptied in less than 2 weeks (in principle of rotational desludging mechanism)
- The WASH sector will provide safety guidelines for people working in desludging operations.

13.2 Activities

The WASH partners will work with the relevant authorities and site planners to ensure the rational location of toilets and sufficient land for sludge treatment and disposal.

Over the course of 2018 increasing attention will be given to the capacity development of local sanitation actors including DPHE, private sector and local actors in toilet design, sludge treatment and solid waste disposal. Humanitarian agencies, under the guidance of the sector, should plan in a way for transition to development projects/durable solution.

13.2.1 Infants and children excreta disposal and management

Young children's excreta are likely to be more dangerous than adult excreta, for several reasons:

- Children are more likely to have diarrheal and intestinal infections, and therefore their excreta contain a relatively higher pathogen load;
- Young children's excreta are mistakenly believed to be harmless; and
- Young children or infants are more likely to contaminate the household as they will often defecate in the home or "compound";

In that case, the WASH partners will focus on providing appropriate facilities to contain infants and children excreta safely. This includes for example nappies, potties, and latrines specific for children. However:

- Consultation and participation with children between 5 to 12 years old will be paramount for effective use
- Consultation and participation with caretakers for children under 5 years old

13.2.2 Construction of latrines

Eliminating open defecation and providing privacy for defecation for women, men, girls and boys will be partly done by the construction of appropriate facilities. However, the participation of the population is paramount for their use, as per the experience in Myanmar, Rohingyas are not using them for different reasons. A key element will be to ensure ownership by providing shared latrines by one up to 3 families, nearby the shelters, when the availability of land allows it.

- The facilities will take into account community preferences and environmental factors in the selection of the design / type of latrine and desludging technical feasibility.

- Hand washing at the house is the preferred option for family toilets so handwashing facilities are not a requirement however the agency building toilets must ensure that household have a bodhna and soap in every household.
- Depending upon the local settings and geographical context, alternative solutions to pit latrines such decentralized waste water treatment systems should be explored.

A coding system will be established by the WASH sector and the Camp manager to ensure proper monitoring of latrines status, maintenance, use as well as easing the process of feedback from communities and other sectors and finally to [map latrines to be desludged or decommissioned](#).

13.2.3 Operation and Maintenance

Breakdown of latrines (and the whole sanitation system) could be caused by inadequate maintenance, even for properly designed and installed facilities. Poor maintenance will lead to latrines failures, contamination of the environment, and a high risk of infection and diseases. Regular inspection and maintenance by the organization in charge should be enforced.

Individual families should be responsible for the cleanliness of their own unit. The organization in charge could support the families by providing materials, and outreach activities to promote the use of the latrines and identify blockages.

For communal latrines, the organization in charge should established an effective program of latrine cleaning and maintenance, which may include compensating individuals, who are responsible for keeping them clean and operational on daily basis.

13.2.4 Fecal Sludge Management

- The sector will prioritize the development of suitable land for the purpose of treatment of fecal sludge. Technology options will be those that are fast to set up, sustainable, scalable, effective, and suitable to the context in Cox's Bazar. The FSM ad-hoc TWG has developed fact sheets of treatment options, indicating in which conditions appropriate treatment technologies should be used. The working group supports WASH agencies undertaking FSM with technical support.
- Planning and resource allocation for desludging activities should part of the sanitation response that should be not limited to latrines construction.
- Given the density of population all partners will try to use designs that maximize their holding capacity, digestion, compost or any other onsite solutions in order to reduce the need to de-sludge.
- Sustainable latrine solution through innovation, Piloting and scale up (tiger worm/biofil, alternative twin pit offset, direct drop-twin pits effluents, UDDT/eco-san, bio-digester/bacteria, etcetera) is also encouraged
- Lime stabilization is one of the treatment options that has been prioritized for the 2018 pre-monsoon season. It is anticipated that many of the areas used for lime stabilization will become flooded in the monsoon season, and it is planned to decommission these sites after March.
- With the expected decommissioning of lime stabilization sites, there is a greater need for scale-up of development of land for off-site treatment within and outside the Kutupalong mega-camp in February – March 2018.
- Identification of latrines to be desludged or decommissioned has been led by the WASH Zonal Focal Agency in each of the zones of the mega-camp.
- Desludging and transport will be undertaken by the WASH agencies active in the zones and coordinated by the WASH Zonal Focal Agency where necessary.

- Equipment and instructions to uphold hygiene and health and safety standards will be provided to workers who are undertaking desludging, transport, and treatment of fecal sludge.
- Immunization (AWD/Typhoid/...) will be mandatory for all FSM workers
- Off-site treatment technologies will incorporate needs for long-term storage, treatment, demineralization and humification, and end-point reuse. These treatment sites are to be operated in 2018 by the agencies which establish them with future plans for handover and technical support to partners. Additional end-point treatment and disposal sites will be identified.
- WASH partners setting up FSM units has to ensure that these facilities are protected from flooding or land-slides. Those units already operational and at risk of flooding must be protected from flooding impacts; actions to protect these units must be prioritized and in place by the end of March 2018.

13.2.5 Modified CLTS on host communities

A CLTS approach to local sanitation is advocated by the GoB. Given that Rohingya communities are being provided with facilities it is unlikely that a strict CLTS approach will work in the host communities. A strategy focused on community engagement and participation, for example modified CLTS, will therefore be employed in host communities that have not yet achieved open defecation free status. Assistance will be available to the community to implement its ODF plan. Communities will still take complete responsibility for the operation and maintenance of the facilities thus constructed. Hygiene activities will also accompany this approach to take full advantage of the communities' willingness to change.

14 Solid Waste Management

14.1 Minimum Requirement

Initial stage	Long-term
<ul style="list-style-type: none"> • Dwelling areas, drainages, bridges are free from uncontrolled solid waste • One 100-litres bin for every 15 households and at every public place • One 20 m³ temporary waste pit/cell for every 150 households 	<ul style="list-style-type: none"> • One bin for every 10 households • Municipal SWM services in Ukhia and Teknaf • Regional landfill or large-scale incinerator

To ensure vector breeding cycles are disrupted through solid waste management the following activities will be undertaken progressively over the course of 2018:

- Organize targeted solid waste clean-up campaigns at all locations, including dwelling areas, drains, bridges, agriculture lands, market places, and public facilities.
- Provision of waste bins and temporary dumping pits/waste cell install basic solid waste management system and in the camps and host communities
- Provide personal protective equipment and immunization to people who deal with the collection and disposal of solid waste material, and those involved in material collection for waste recycling.
- 10 persons per 1,000 are people are required for the targeted clean up works for two months (CASH for Work or daily worker's systems)

- As a rule of thumb, a 5-person maintenance team should be available per 2,000 persons over ten months
- All members of community involved in the project will be trained and informed of risks of handling waste in an improper manner.

14.2 Activities

14.2.1 Cash for Work for waste collection Cash for Work for waste collection

Cash for work (CfW) is the generic term for employment programs that offer refugees and host communities an opportunity to earn some money, injects cash into the local economy and there by enhance local businesses. At the same time, these programs render vital public services that promote the general welfare of everyone, such as the waste management system.

The process to select the workers will need to be transparent and explained to the members of the community (not only to the leaders) to avoid tensions in the communities. Feedback will need to be collected to ensure that everyone is comfortable with the system, and there is no power of abuse created through the system. Different systems could be applied in the zones/camps:

- Targeting the households in most need of incomes in order to avoid negative coping mechanisms (such as survival sex) could be done. This can be done by defining criteria with the community and through self-identification by the community, with triangulation from the organization
- Developing a system that randomly selects the household and allows for a rotation. For example, organizing a random draw on by weekly basis.

The scope of waste clearance under CfW will be the following:

- 1.) Clearing solid waste (old and new) discarded around the camps/villages
- 2.) Collecting solid waste from surface waterways, drainage systems, agriculture lands, and other potential vector breeding locations
- 3.) Collect and remove waste from spontaneous markets inside the camps and market in the villages
- 4.) Waste separation between degradable (organic) and non-degradable (inorganic, plastic, etc.)

The participants will work in groups (ideally 20 – 25 people per group) each covering a specific area in the camp/village. A supervisor will be dedicated to each group to give instructions and assure the targeted progress achieved. Detailed mapping of roads and drains in the camp/villages is required to determine transport routes and dumping locations.

The workers will need to be equipped with personal protective equipment (PPE) including gloves, masks and boots, and will need to be able to wash their hands after leaving their work.

The workers will have the sufficient tools and appropriate materials to transport safely the waste to the final destination and to make the work more efficient and safe. In certain condition, the vehicle like small trucks or pick up should be provided to transport big volume of waste.

The type and quantity of PPE/tools to be provided to a group of 25 people is as following table:

No	Item	Unit	Quantity
1.	Gloves	pair	25
2.	Boots/socks	pair	25
3.	Face/dust masks	dozen	5
4.	Hats	Pcs	25

5.	Brooms	Pcs	15
6.	Rakes	Pcs	5
7.	Shovel	Pcs	5
8.	Bamboo baskets	Pcs	5
9.	Wheel barrows	Pcs	2
10	First Aid kits	Pcs	2

The collection of waste will follow the established system, which means the use of bins for households and the use of intermediary disposals. The CFW activity will be based on the volume of waste generated and adjusted to the needs.

14.2.2 Waste transport and intermediary disposal management

When selecting suitable vehicles/equipment for transporting the waste, waste generation rates and densities will need to be considered along with:

- Areas they need to access (e.g.: narrow alleys or uneven paths)
- Distance between collection and disposal points

For example, a wheelbarrow could collect waste from approximately 50 individuals before it requires emptying. In the narrow alley and in the rainy season, the man-carry basket with handle can be used for smaller volumes of waste.

Waste pits/cells with volume of 18 to 25 m³ without leachate treatment ponds can be constructed as intermediary disposal site. They should be situated at least 1km downwind of settlements, at a location selected in consultation with authorities. They should be also situation downhill of water sources and at least 50m from surface water sources. Carefully, consider drainage where the pit is on sloping ground and erect fences to keep animals and scavengers out.

The soil from the pit excavation should be kept on three sides as the stock material for waste cover. The disposal side must be well protected by suitable fence to avoid people falling in and completed with proper gate for easy access. These sites are only suitable for short term use between 8 months to one year maximum. All sites must be recorded with GPS coordinates for the purpose of discharge and waste removal once the permanent landfill constructed.

14.2.3 Final waste disposal

The permanent solution should be arranged under the government led project as a sustainable solid waste management system in Cox's Bazar district. A regional sanitary landfill is recommended considering the limited land available to accommodate the pressing needs in the influx affected upazilas. This type of large-scale disposal of waste will be carried on off-site with control of the following characteristics:

Location:

- Minimum 1 km to from nearest habitable building.
- Minimum 1.5 hectares cell with leachate treatment plant
- Downhill from ground water sources.
- Permanent fence and perimeter area secure access to site.

15 Water

15.1 Background information

The dry season in Bangladesh lasts for 5 months from November to March, during these months the water table goes down on average 45- 60 feet (15-20 m).

Nayapara and Leda camps have as of now no exploited ground water, there is also limited ground water in the other camps in Teknaf.

Greater Kutupalong in Ukhiya has ground water which varies in depth. Shallow layers are better around 100' (30m) ranges while a second deeper aquifer can be found between 500-800 feet (152-244m). (Shallow layers below 300 feet while deep characterized as below any impervious layers- normally in Ukhiya starts from 500 feet.)

Over 5000 shallow and deep tube-wells (manually) have been drilled in 2017 phase, most are fitted with hand pumps with 7m max suction head, increasing the risk of many becoming non-functional during the during the peak of the dry season.

Due to the poor workmanship and indiscriminate siting, sanitary protection is compromised in most sources. Up to 70% of water samples from tube-wells are showing some faecal contamination.

There is evidence of wear and tear of spare parts in handpumps along with the priming of suction pumps increases the risk of contamination and non-functionality.

15.2 Minimum requirement

15.2.1 Water quantity:

	Water trucking	Other Supplies
L/P/D*	7.5 – 10	20
Max queuing	1 hour	30 minutes
Maximum distance to water point	500 meter	200 meter
People / HandPump	250 persons /tap stand	250 persons (STW)/ 500 persons (DTW)

* Household surveys, observation, and community discussion groups are more effective methods of collecting data on water use and consumption than the measurement of water pumped into the pipeline network or by measuring the operation of hand pumps.

15.2.2 Water quality

National Standards on water quality will be followed (E. coli, Turbidity, Chloride, Iron, Arsenic, Free chlorine residual as applicable (Table 1 shows the maximum permissible levels).

Protected Well & Spring Sources	
Feacal Coliform/E.coli Count	0 TTC / 100 ml

Piped & Tankered Sources: Free Residual Chlorine at Point of Use	
At all times:	0.2-0.5 mg/l
During diarrheal outbreaks:	0.5-1.0 mg/l
Free Residual Chlorine at Household level	
At all times:	0.2-0.5 mg/l
During diarrheal outbreaks:	0.5-1.0 mg/l

15.2.3 Water points:

Sector coordination will facilitate the compliance of stakeholders with criteria for certification for water points: (a) unique coding (b) marking for fitness for use (c) borehole logging displayed (d) water quality testing (e) water safety planning and (f) O&M training

Depth of the Hand pumps:

- STW: Shallow Tube Well (not less than 30 meters)
- DTW: Deep Tube Well (not less than 280 meters)

Water points designed:

- Appropriate apron should be provided to avoid contamination
- Ensure appropriate water point drainage (if needed water can be reused by planting trees)
- People in charge of water collection (mainly women and children) should have easy and user-friendly facilities. Be sure that the water points such as hand pump and tap stands are at a height that allows use by people of different ages and abilities. It should be useable with water containers of various sizes and shapes.

15.3 Activities

The “Protection of Drinking Water Quality” guidelines will be operationalized, incorporating categorization of wells according to fitness for purpose, decommissioning, source and household water chlorination, sanitary surveillance and water quality monitoring and surveillance and hygiene promotion.

Based on the discussions with the sector partners, there are three type of activities which are proposed to be carried out for provision of water in formal camps (including MEGA camp), make shift (MS) settlements, host communities and spontaneous settlements during the 2018 phase of the emergency response which are as follows:

15.3.1 Sources of water

Ground water:

The sector partners will follow regulations and standard to improve siting, drilling, casing, gravel fill, sealing, well development, pump test, logging and installations of the handpumps or motorised pumps.

DPHE with the sector partners will support to strengthening the harmonisation of coding systems for tube wells e.g. KOBO survey of all water points/TWs with all implementing partners, with each ID/serial numbers and numbers of parameter labels.

Water source mapping and hydrological surveys will be undertaking to facilitate appropriate siting of tube wells

Shallow suction handpumps may serve 70% of the population, deep tube wells 20%, surface water 10% (NP, Leda, UMS) as of now. (shallow suction handpumps will remain most favourable option to communities due to ease of maintenance and low leaver pressure/load, while deep tube-wells with lift pump will be heavier, and need trained mechanics and specialized spares/consumables for repair. in rainy season- water usage pattern will return normal level of consumption.

Based on average discharge each hand-pump can serve up to 250 individuals. Deep hand pumps which can tap water up to depths of 650 to 750 feet (215 – 250 m) can serve up to 500 in the dry season.

Quality assurance of water sources in terms of construction, well development, platform construction will be facilitated by use of a harmonised certification checklist.

Existing Suction handpump may be replaced with lift pump (Tara, Tara deep, IMK2) as appropriate if the water table goes down below suction capacity.

Capacity building require for the local artisans and supervising agency staff on drilling, sampling, logging and well development procedures.

If the findings of the hydrological studies are favorable including recharging of aquifer the partners will install production wells (large casing) with small to medium pipe network and centralized chlorination system. The partners engaged in the construction of these systems need prior approval from DPHE.

Surface water, rain water, harvesting: treatment and distribution

Use of alternate sources of water such as surface and rainwater is highly encouraged with adequate treatment. Considering the surface water source in host community/under forestry land area, any type of source protection such as dam and others should be constructed through 100% temporary materials without distressing ecosystem. In the light of sustainable water supply option for both camps and host community area different types of large/medium scale surface water treatment plant with pipeline network is chosen as one of the best water supply solution for the targeted areas.

Nayapara and Leda have been using surface water with trucking supplement in peak dry season (Feb-Apr). Unchingprang is now progressing on surface water from a local stream that is likely to have a low flow in peak dry season and is to be shared with local cash farmers/producers.

Potential surface water resources should be included in the site planning and site management to provide adequate environmental sanitary protection. Infrastructure to harvest, treat and distribute with technical and environmental feasibility recommended.

Provision of safe water through Trucking:

For populations in an areas or context where ground & surface water is not available water trucking will be required. Sector partners will ensure that such locations receive a minimum of 5-10 litres per person per day.

For any type of water trucking, monitoring the source of the water being distributed and chlorination of water before distribution is mandatory.

For 2018 response plan it is assumed that around 10% of the sector target will receive water through trucking while up to 20% in peak dry season (especially Feb-Apr) when some of the surface water sources and shallow tube-wells dries up.

Based on the context, it's recommended to have storage tanks set up in a place with a tap stand (1 tap/ 250 people), by ensuring that women have access to water.

15.3.2 Treatment of water

Emergency phase bulk water treatment batch treatment with coagulation/flocculation and chlorination with agreed drinking water minimum guidance (turbidity, FRC, pH,) is recommended. Where surface water is the main source there should be a transition to a more sustainable system (solar pumping, filtration, gravity distribution, permanent infra-structures).

Treatment at source and household water treatment is recommended to facilitate compliance with Bangladesh Drinking Water standards.

DPHE with the sector partners will support a rapid water quality assessment to enable the sector to give guidance on the effective use of WPT in iron rich water sources.

15.3.3 Water quality

The sector will operationalise a preventive water quality monitoring system based on the protection of [water quality guidelines](#). Existing tube wells will be marked for drinking, decommissioning, or non-drinking domestic uses, based on criteria specified in the guidelines. Tube wells marked for drinking will be chlorinated and protected either at source or household level. Free residual chlorine will be monitored in representative samples at household level

DPHE with the sector partners will conduct a sensitization and awareness raising session on the protection of water quality guidelines

There will be the establishment of a Fully Equipped Water Quality Testing Laboratory in Cox's Bazar

DPHE with the sector partners will organize a workshop for the sector on water quality monitoring and water treatment

DPHE is conducting a water quality surveillance and sanitary survey. (% of samples from tube-well, hh container with E. coli above the GoB standard) Water quality surveillance will be led by DPHE)

All existing water sources will be assessed for fitness of use by sanitary surveillance and remedial action undertaken to remove/block source/route of contamination (repair/provision of water seal, repair/construction of apron, decommissioning latrine, etc.). After remedial action, it is recommended carry out shock chlorination of the well, put in place a treatment option and test samples for FRC and bacteriological contamination as applicable.

15.3.4 Operation and Maintenance

Community based operation and maintenance models should be established, supported and monitored by the WASH organization that have equipped the water point. This includes minor repairs of handpumps.

Operation and maintenance guidelines and strategy for existing and planned water supply options will be developed and operationalized and enforced to facilitate sustainability.

Operation and maintenance by all stakeholders to ensure that a supply chain is maintained to ensure sustainability of the handpumps with timely access to adequate spare parts and consumables.

Use of community volunteers as "water point attendants" (WPA) for a single or group of handpumps in order monitor and report any repairing needs and preventing any abuse. They can be used for any AWD response to carry out bucket chlorination or application of chlorination at the point of collection.

15.3.5 Water in host communities

Potential interventions to facilitate the benefits to the host communities include:

- Support to construction and installation of traditional water supply system, such as spring protection, spring fed gravity distribution, protected dug-wells, where appropriate deep and shallow tube-wells.
- Repairs and rehabilitation of community water source and water systems
- Extension from the pipe network for the host community
- Surface and stream water development for other than drinking water needs

All interventions will consider the positive and negative impact on the host communities and efforts made to enhance sustainable water supply benefits to the host communities and Royinghas