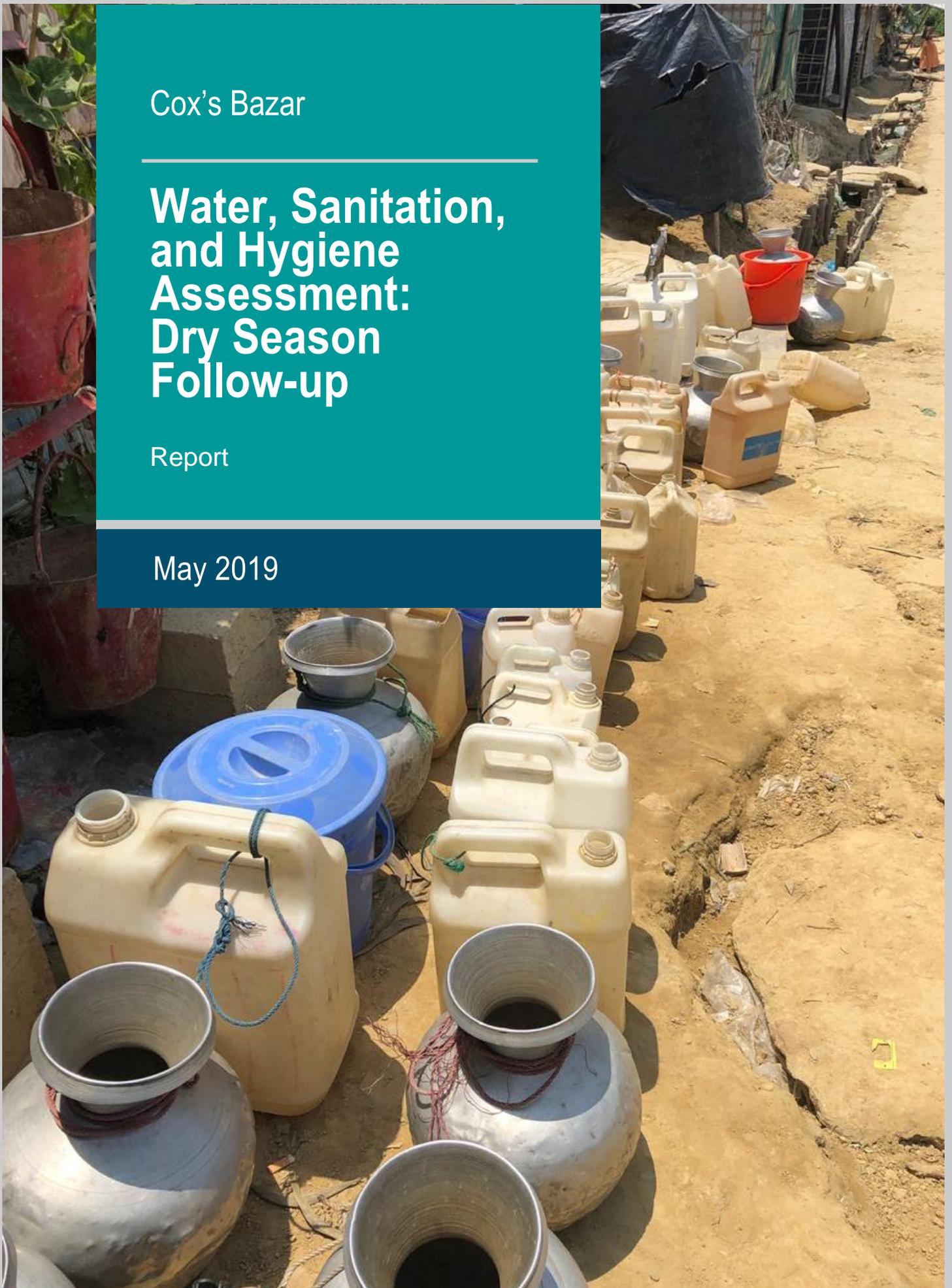


Cox's Bazar

# Water, Sanitation, and Hygiene Assessment: Dry Season Follow-up

Report

May 2019



Funded by:



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Cover image: Kutupalong-Balukhali Extension Site, August 2018. © IMPACT Initiatives, 2018

## About REACH

REACH Initiative facilitates the development of information tools and products that enhance the capacity of aid actors to make evidence-based decisions in emergency, recovery and development contexts. The methodologies used by REACH include primary data collection and in-depth analysis, and all activities are conducted through inter-agency aid coordination mechanisms. REACH is a joint initiative of IMPACT Initiatives, ACTED and the United Nations Institute for Training and Research - Operational Satellite Applications Programme (UNITAR-UNOSAT). For more information please visit our website: [www.reach-initiative.org](http://www.reach-initiative.org). You can contact us directly at: [geneva@reach-initiative.org](mailto:geneva@reach-initiative.org) and follow us on Twitter @REACH\_info.

## SUMMARY

Since August 2017, an estimated 743,000 Rohingya refugees have arrived in Bangladesh's Cox's Bazar District from Myanmar. Adding to existing caseloads of refugees from previous displacements in 1978, 1991, and 2016, this has brought the total number of Rohingya residing in Bangladesh to approximately 913,000.<sup>1</sup> As of 31 August 2019, 735,000 refugees reside in the Kutupalong-Balukhali Extension Site in Ukhiya Upazila, with an additional 171,000 individuals living in smaller camps in Teknaf Upazila. The quick influx of refugees coupled with the unplanned and spontaneous construction of the camps produced a fast-growing crisis characterised by acute water, sanitation and hygiene (WASH) needs.

In the framework of the Inter-Sector Coordination Group (ISCG) and under the leadership of the Bangladeshi Department of Public Health Engineering (DPHE), the Cox's Bazar WASH Sector – co-chaired by UNICEF and Action Against Hunger – is tasked with the coordination, monitoring and strategic planning for WASH-related aspects across the humanitarian response. Since the start of 2018, REACH Initiative has provided support to WASH Sector response monitoring, conducting household surveys on WASH needs in the April 2018 dry season and the October 2018 monsoon season. In April-May 2019, REACH implemented a third assessment, with the objectives of identifying key WASH needs and service gaps among the Rohingya refugee population in the second dry season of the response; building a stronger understanding of what characterises households and individuals with high levels of WASH needs; and monitoring changes over time.

The study took the form of a household survey covering 33 out of the 34 ISCG-recognised camps, with Kutupalong registered camp the only exception due to ongoing security concerns. The survey was completed with a 95% confidence level and 10% margin of error for each of the 33 assessed camps, also providing aggregate figures at 95% confidence level and 5% margin of error for the Kutupalong-Balukhali Extension site,<sup>2</sup> the cluster of camps in southern Teknaf Upazila,<sup>3</sup> and 95% confidence level and 2% margin of error for the refugee population as a whole.

Overall, findings from the study were broadly similar to results of the previous assessment in October 2018, following substantial improvements between April 2018 and October 2018. This implies that while achievements in the initial year of the response have been sustained, more focused attention will be required to address the outstanding challenges that remain. Key findings are presented below, beginning with a snapshot of changes since October 2018, followed by key trends identified for water, sanitation, hygiene, and vulnerable groups.

<sup>1</sup> All figures from UNHCR Population data and key demographical indicator (Block Level) - 31 August 2019 <https://bit.ly/2krnMJK> (accessed 10 September 2019).

<sup>2</sup> The Kutupalong-Balukhali extension site is commonly referred to as the 'megacamp' in the response

<sup>3</sup> The camps in the southern part of Teknaf Upazila include: Camp 22, Camp 24, Camp 25, Camp 26, Camp 27, and Nayapara RC

## At a glance: Key changes since October 2018

**Water:** Household water collection times have risen substantially, with 31% taking more than 30 minutes to collect water, up from 21%. Despite the dry season, water collection for domestic purposes also rose, with 69% of households collecting 15 or more litres per person per day compared to 54%. Household water storage capacity has also increased, with 52% of households now having 10 litres of water storage per person (up from 26%). However, these gains have not been matched by improvements in treatment practices, with reported aquatab use falling to 22% from 30% in October. For households not using aquatabs, belief that water sources are already treated is much more prevalent compared to October as a reason for not using aquatabs.

**Sanitation:** While figures on latrine use are not directly comparable due to changes in question phrasing, findings suggest that use of communal latrines has substantially expanded, while the use of household and shared latrines has shrunk. A similar trend was observed for bathing spaces; male household members were reported as making more frequent use of makeshift household facilities instead of tubewells. Households reporting using undesignated open areas to dispose of solid waste was much higher in May 2019 at 38%, having been under-reported in October 2018 due to a translation issue in the survey tool.

**Hygiene:** Reported diarrhoea incidence rose substantially, with 26% of households reporting at least one member ill with diarrhoea in the two weeks prior to data collection compared to 15% in October. At the same time, knowledge of at least three critical handwashing times has increased substantially, reported by 76% of respondents compared to 46%. However, households' reported participation in hygiene promotion activities in the two weeks prior to data collection fell from 53% to 39%. Women's use of pieces of cloth as menstrual hygiene management materials has dropped substantially to 26% from 41% in favour of reusable period underwear. The proportion of women reporting facing problems accessing menstrual hygiene materials also fell from 31% to 13%.

## Water

- As in previous assessments, close to 100% of households reported using improved water sources, although a minority of households in southern Teknaf continue to rely on unimproved water sources, including 13% in Camp 27 and 4% in Camp 24. After expanding between April and October 2018, use of piped networks in Kutupalong sites remains constant at around 10%.
- Significantly-longer water collection times were reported across all camps, with households more likely to report taking more than 30 minutes in May 2019 (30%) compared with October 2018 (21%), with this problem affecting households in southern Teknaf at disproportionately high rates (54%).
- Few households overall reported facing problems collecting sufficient quantities of drinking water in the week prior to data collection (6%). However, this issue was faced by households at concerning high levels in southern Teknaf (18%).
- The average volume of drinking water collected was 14 litres per person, per day - with 88% of households meeting the SPHERE minimum standard of 3 litres per person, per day. The average volume of all domestic water was 19 litres per person, per day - with 69% meeting the SPHERE minimum standard of 15 litres per person, per day (up from 54% in October).
- A majority (56%) of households possessed at least 10 litres of water storage capacity per person, almost double the rate reported in October (26%). Almost all households possessed at least one aluminium pitcher which were mainly reported as used for collecting drinking water, and were typically covered. Additionally, around three quarters of households reported possession of plastic buckets which were mainly reported as used for non-drinking water, and were far less likely to be covered. Households generally reported cleaning their containers frequently (every day or every 2-3 days).
- Around one in four households reported using water treatment (mainly aquatabs) in the two weeks prior to data collection, compared to 38% of households reporting at least sometimes. Rates at which households reported reasons for not using aquatabs have changed: fewer households reported never receiving them, while a greater proportion reported that water from the source is already chlorinated.

## Sanitation

- By far the most commonly used type of facility used for defecation was communal/public latrines, used by at least one individual in 84% of households.
- Around a quarter of households reported that open defecation is practiced by at least one individual – which was almost always a child under five.
- Thirty-four percent (34%) of households reported at least one member facing problems accessing or using latrines, with problems more frequently reported in Kutupalong (36%) compared to southern Teknaf (25%). Long distances and overcrowding at facilities were the most common problems. Additionally, around one in five households reported at least one individual feeling unsafe at latrines.
- Makeshift spaces inside shelters are the most commonly used bathing spaces, used by at least one individual in 62% of households. They are mainly used by female household members, although more male household members are using them in favour of tubewells compared to October.
- Fewer households reported problems accessing or using bathing facilities compared to latrines (13%). The most commonly reported problems with bathing related to overcrowding at facilities as well as long distances to facilities.
- Few households (21%) reported being consulted in the design and construction of latrines and bathing facilities – although some camps featured above-average rates of this human-centred practice. Of those that reported being consulted in the design and construction of any type of facility across all camps, 79% reported feeling that their views had been taken into account.
- A majority of households with children under 5 reported only employing safe methods for disposing of children's faeces (58%), while 22% use only unsafe practices and the remainder use a mix.
- While a relatively low proportion of households overall reported burning waste (15%), this risky practice was more commonly reported at concerning high rates in several camps including Camp 26 (39%), Camp 25 (38%) and Camp 12 (33%).

## Hygiene

- Reported diarrhoea incidence rose substantially since October, with 26% of households reporting at least one individual having had diarrhoea in the two weeks prior to assessment compared to 15% in October. Household diarrhoea incidence was found to be significantly correlated with respondents not knowing three critical handwashing times, reported presence of faeces or solid waste near the household, and households reporting a lack of hand soap.
- While household soap possession increased significantly between April 2018 and October 2018, it remained around the same in May 2019 (87%). Almost all households that did not possess soap reported that it was due to their supply running out.
- Around three quarters (76%) of respondents were able to identify at least three critical handwashing times (up from 46% in October 2018), with adult females significantly more likely to report knowing at least three times (91%) compared to adult males (65%).
- Over half of the surveyed women reported using reusable pads to manage menstruation (52%), double the rate of October 2018. A high proportion of women also reported using reusable period underwear, with disposable pads and pieces of cloth reported to a lesser extent. Almost all women reported receiving menstrual hygiene materials in a distribution, with very few reporting purchasing materials in the market. However, only one in five reported receiving menstrual hygiene items in the 30 days prior to data collection.
- Thirty-nine per cent (39%) of households reported participation in hygiene promotion activities in the two weeks prior to data collection, down from 53% in October. The most common types of activities in which households related to handwashing and activities. Rates of participation in different activities varied by type and across camps.

## Vulnerable groups

- Overall, 5% of individuals aged 5 and over were reported as having a disability, with 14% of households reporting the presence of at least one person with a disability. People with disabilities were significantly more likely to be reported as facing challenges accessing WASH services.
  - Individuals with disabilities reported as collecting water were significantly more likely to be reported as facing problems collecting water than those without (56% vs. 38%).
  - Individuals with disabilities were more likely to be reported as facing problems accessing or using latrines (39% vs. 29%) and to feel unsafe using them (28% vs. 20%).
  - Individuals with disabilities were more likely to be reported as facing problems accessing or using bathing facilities (21% vs. 12%) and to feel unsafe using them (23% vs. 5%).
  - Individuals with disabilities were significantly more likely to be reported as having diarrhoea in the 2 weeks prior to data collection (17% vs. 7%)
- Overall, 3% of individuals in assessed households were elderly (aged 60+). Although less extreme than for people with disabilities, this group was also reported as facing service access issues at disproportionately high rates, especially elderly women.
  - Elderly people were somewhat more likely to be reported as facing problems accessing latrines compared to adults aged 18-59 (around 40% compared to around 30%).
  - Elderly women in particular were more likely to face problems getting to the toilet on time—used here as a proxy measure for incontinence—compared to adult women (37% vs. 15%).
  - Elderly women were also more likely to be reported as facing problems accessing or using bathing facilities compared to adult women (24% vs. 15%).
  - Elderly people of both genders were more likely to be reported as having diarrhoea in the 2 weeks prior to data collection compared to adults (15% vs. 6%).
- Across all service access domains, adult and adolescent females were only slightly more likely to be reported as facing problems or safety issues compared to males. This may however be linked to the fact that information was being reported by proxy rather than directly, with secondary data continuing to suggest that females face substantial gendered issues related to WASH service access.<sup>4</sup>

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<sup>4</sup> Sarah House. Strengthening the humanity in humanitarian action in the work of the WASH sector in the Rohingya response: Gender, GBV and inclusion audit of the work of the WASH sector and capacity development assessment. Cox's Bazar, March 2019. <https://bit.ly/2krBt1C> (accessed 10 September 2019).

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## List of Acronyms

<b>DPHE</b>	Department of Public Health Engineering
<b>FGD</b>	Focus group discussion
<b>IM</b>	Infrastructure mapping
<b>IOM</b>	International Organization for Migration
<b>ISCG</b>	Inter-Sector Coordination Group
<b>NPM</b>	Needs and Population Monitoring
<b>PSEA</b>	Prevention of sexual exploitation and abuse
<b>RC</b>	Registered Camp
<b>WASH</b>	Water, sanitation and hygiene
<b>ODK</b>	Open Data Kit
<b>TWiG</b>	Technical Working Group
<b>UNHCR</b>	The United Nations High Commissioner for Refugees
<b>UNICEF</b>	United Nations Children’s Fund

## Geographical Classifications

<b>District</b>	Third tier of administration in Bangladesh, forming sub-units of divisions
<b>Upazila</b>	Fourth tier of administration in Bangladesh, forming sub-units of districts

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## INTRODUCTION

Since August 2017, an estimated 743,000 Rohingya refugees have arrived in Bangladesh's Cox's Bazar District from Myanmar. Adding to existing caseloads of refugees from previous displacements in 1978, 1991, and 2016, this has brought the total number of Rohingya residing in Bangladesh to approximately 913,000.<sup>5</sup> As of 31 August 2019, 735,000 refugees reside in the Kutupalong-Balukhali Extension Site in Ukhiya Upazila, with an additional 171,000 individuals living in smaller camps in Teknaf Upazila. The quick influx of refugees coupled with the unplanned and spontaneous construction of the camps produced a fast-growing crisis characterised by acute water, sanitation and hygiene (WASH) needs.

In the framework of the Inter-Sector Coordination Group (ISCG) and under the leadership of the Bangladeshi Department of Public Health Engineering (DPHE), the Cox's Bazar WASH Sector – co-chaired by UNICEF and Action Against Hunger – is tasked with the coordination, monitoring and strategic planning for WASH-related aspects across the humanitarian response. With the situation stabilising by early 2018, and the subsequent impacts of the 2018 monsoon season less severe than anticipated, the WASH Sector is continuing its efforts to implement higher-quality, more sustainable, and better-integrated programming.<sup>6</sup> In 2019, the Sector is aiming to improve and rationalise the availability of reliable safe drinking water through establishing chlorinated piped water networks supplying clearly delineated distribution zones. As the construction of higher-quality, more sustainable latrines continues, a greater focus will be placed on gender and culturally-sensitive design, rooted in stronger community consultation. This follows analysis suggesting that issues of gender and inclusion still require effective mainstreaming across Sector activities.<sup>7</sup> Coupled with infrastructure improvements, the Sector is also aiming to strengthen hygiene promotion activities through behaviour change programming based on behavioural factors, alongside community engagement promoting participation in the design, implementation and monitoring of WASH facilities and services.

As part of its support to the Sector, REACH conducts periodic household-level assessments of WASH needs among Rohingya refugees in Cox's Bazar. These are implemented in order to provide rigorous response monitoring, highlight key gaps and priorities, and measure progress against sector targets. The [first assessment](#) took place during the April 2018 dry season, followed by a [second assessment](#) during the monsoon period between August and October 2018.

Fieldwork for the current study was carried out in April-May 2019, focusing on needs during the second dry season of the response. As with previous assessments, it took the form of a household survey covering 33 Inter Sector Coordination Group (ISCG)-recognised camps, with Kutupalong registered camp (RC) the only exception due to ongoing security concerns. For this assessment, further efforts have been made to disaggregate individuals' experiences accessing key service by sex and age, as well as to focus on the specific needs of people with disabilities.

This report explains first the assessment methodology and limitations. Following, the assessment's findings are presented, starting with household demographics before moving on WASH related indicators and finally information on household exposure to WASH-related trainings and demonstrations. The conclusion synthesises key issues and outlines suggestions for further data collection initiatives.

<sup>5</sup> All figures from UNHCR Population data and key demographical indicator (Block Level) - 31 August 2019 <https://bit.ly/2krnMJK> (accessed 10 September 2019).

<sup>6</sup> The Sector's full 2019 response strategy can be found in: Strategic Executive Group. 2019 Joint Response Plan for Rohingya Humanitarian Crisis. Dhaka, February 2019, p. 43-44. <https://bit.ly/2tQfJXI> (accessed 10 September 2019).

<sup>7</sup> Sarah House. Strengthening the humanity in humanitarian action in the work of the WASH sector in the Rohingya response: Gender, GBV and inclusion audit of the work of the WASH sector and capacity development assessment. Cox's Bazar, March 2019. <https://bit.ly/2krBtIC> (accessed 10 September 2019).

### Overview

The assessment was implemented using a quantitative approach in the form of a household survey, stratified by camp. Primary data collection took place between 23 April and 26 May 2019, comprising a total of 3,268 household interviews across 33 ISCG-recognised camps, with Kutupalong RC the only exception due to ongoing security concerns. A table detailing the numbers of interviews conducted per assessed camp is available in Annex 1. A link to the Terms of Reference for this assessment is available [here](#).

### Indicators and tool design

Indicators for inclusion in the assessment were developed in the framework of the Cox's Bazar WASH sector, with support from the Global WASH Cluster in Geneva and UNICEF in Cox's Bazar. The tool and indicators for this assessment were updated from the October 2018 version following a design workshop in March held with key technical staff from the sector's water, sanitation and hygiene technical working groups (TWiGs). Following review and validation by the Global WASH Cluster and REACH technical staff in Geneva, the updated tool was translated into Rohingya with support from Translators Without Borders (TWB).

### Sampling

The survey consisted of a simple random sample of households stratified by camp, aiming to ensure that every household in each camp had an equal chance of being selected for interview. Sample size for each camp was derived from a sample frame based on the most recent UNHCR population figures for each camp,<sup>8</sup> aiming to produce data generalisable with a 95% confidence level and 10% margin of error for each of the 33 assessed camps. The sample was also designed to ensure that data could be aggregated to a weighted average for Kutupalong camps, southern Teknaf camps, and all assessed camps at a 95% confidence level and 5% margin of error (see Map 1 below).<sup>9</sup> An estimated 25% non-response/non-eligibility rate was factored into all sample size calculations.

In the absence of a household list for each camp, REACH used the following procedure to select households for inclusion in the sample. First, ISCG camp boundaries were overlaid onto Open Street Map shelter footprint data so that all shelters existing in the camps could be identified. From there, a random distribution of GPS points corresponding to the required sample size for each camp was generated, with each GPS point indicating a shelter to be interviewed. If no eligible individuals were available at the GPS point, or the point was not a household (e.g. latrine, mosque, or other camp facilities), then the point was marked as "not eligible" and the enumerator moved on to the next point. At the end of the initial round of data collection, REACH allocated additional randomised GPS points to camps that had not achieved the minimum sample size per camp.

In order to ensure that the experiences and perspectives of female refugees were adequately represented in the assessment, and to allow for comparison of results by gender of respondent, the following procedure was followed for selecting individuals to interview within each household: enumerators were instructed to ask to interview the member of the household of their own gender, and over the age of 18, who was most knowledgeable about the affairs of the household (self-defined by the household). With the enumerator team split equally between men and women, and with

<sup>8</sup> UNHCR. Population data and key demographical indicator, 15 March 2019. <https://bit.ly/2krKrpq> (accessed 10 September 2019). UNHCR population counts use the terminology of "families" instead of households. For the purposes of this assessment, these terms were assumed to be equivalent.

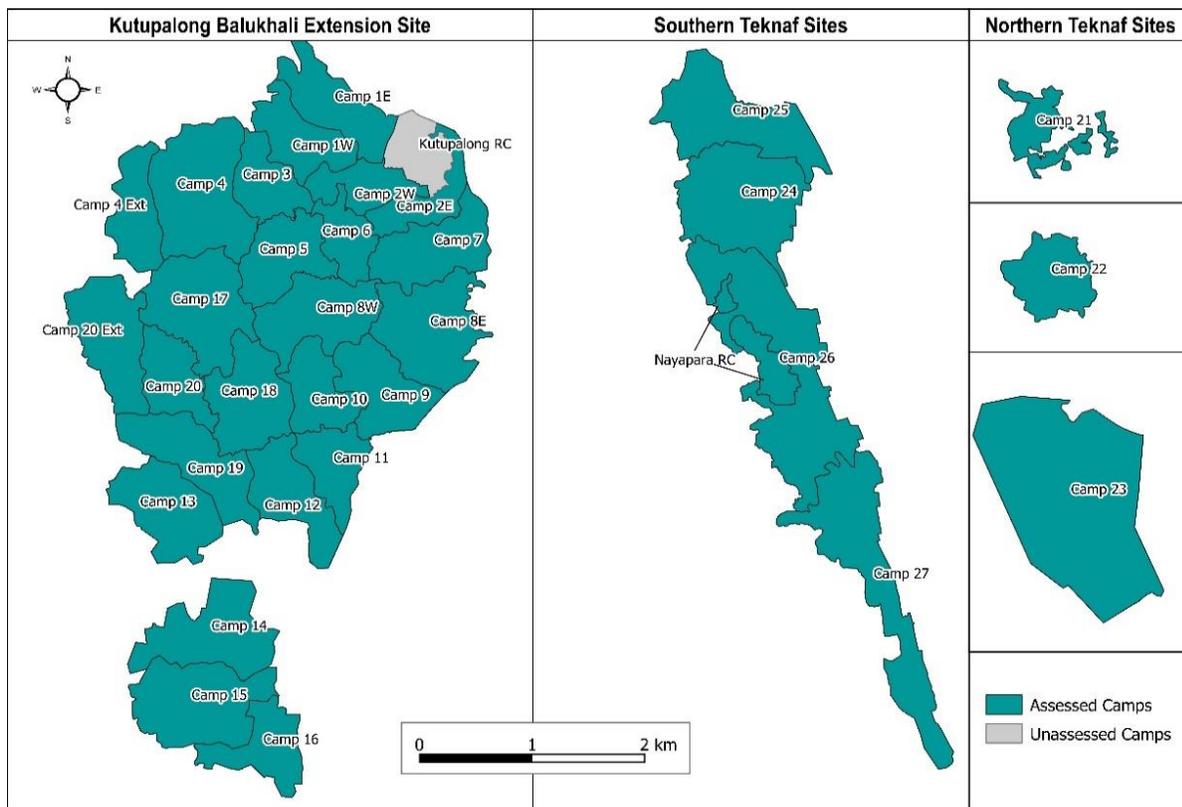
<sup>9</sup> Kutupalong camps include all camps falling inside the Kutupalong-Balukhali extension site, commonly referred to as the "megacamp". This includes 25 camps from camp 1 to camp 20 extension. Southern Teknaf camps include the group camps in Nhilla Union of Teknaf, covering camps 24-27 and Nayapara RC. Findings for the remaining three isolated camps in northern Teknaf—camps 21-23—are not presented in aggregate as they differ substantially from each other in terms of population, geography and settlement pattern.

all enumerators completing a similar average number of interviews per day, this ensured that respondents in the final sample were split almost equally between men and women.

## Data Collection

Data collection was conducted by seven teams of eight Bangladeshi enumerators (total 56) overseen by team leaders. Team leaders were in turn overseen by a Field Coordinator. Prior to data collection, enumerators underwent a two-day training to familiarise them with the tool and with field protocols. TWB provided additional support to clarify language issues in the form, and staff from Humanity and Inclusion provided training on implementing the Washington Group Short Set to inform the survey's disability component. Training was followed by a two-day pilot to identify and troubleshoot issues with tools and protocols. During data collection, GPS points and a map of each camp were then uploaded to enumerator phones using the Maps.Me app. Each day, enumerators were assigned a list of GPS points by their team leaders, and instructed to navigate to each point and select the nearest household for interview. Informed consent was sought, received, and documented at the start of each interview. Enumerators were instructed to ask respondents to conduct the interview in a private place in order to minimise the possibility of influence by other household members. However, given the congested nature of the camps this was not always feasible. During interviews, data was entered directly onto smartphones using the Kobo app. In total, 3,268 households were interviewed.

Map 1: Assessed camps



#### Box 1: Measurement of household water consumption

For household assessments in Cox's Bazar, REACH uses an adapted version of the standard approach to calculating household water consumption. This is normally implemented by asking household members to estimate the volumes of the containers they use to store and collect water, asking how many times these containers were refilled during the previous day, adding up the total volume collected, and dividing it by the number of members for each household. In the initial April 2018 household survey, it was found that this method resulted in systematic under-estimation of container volumes.\*

In order to address this issue and improve data quality, REACH enumerators are instead trained to use tape measures to directly measure the dimensions of different types of containers. Based on these measurements, “best estimate” volumes are then calculated for the idealised geometrical shape (sphere, cylinder, cuboid) for each container type, and reduced by 10% to account for the fact that containers are not filled to the brim during water collection.

\*See REACH Initiative, Water, Sanitation and Hygiene baseline assessment, Cox's Bazar, Rohingya refugee response, April 2018, p. 15-16.

## Data Cleaning and Checking

Data checking and cleaning was conducted on a daily basis according to a set of pre-established standard operating procedures. Data cleaning included removal of identifying data, outlier checks, correct categorisation of “other” responses where appropriate, and the identification and removal/replacement of incomplete or inaccurate records.<sup>10</sup> A daily report of identified issues was compiled and reviewed with assessment teams at the start of each subsequent day of data collection. All changes to the dataset were documented in a data cleaning log included in the clean, anonymised [dataset](#).

## Data Analysis

Following the finalisation of tools, a data analysis plan was drafted, providing a roadmap outlining stratification, weightings, statistical functions required, etc. Following the completion of data collection, preliminary analysis was conducted according to the analysis plan, with an analysis syntax created in R software. Where relevant, findings have been triangulated with secondary sources.

## Changes compared to the previous assessment

Wherever possible, indicators have been kept constant with the October 2018 assessment in order to enable comparison of findings over time. However, based on recommendations at this assessment's design workshop, the following major changes to the tool were implemented:

1. Data on water collection, latrine access, and bathing facility access were asked—via the respondent as a proxy—about each individual member of the household, rather than about the household as a whole or about groups of household members. This was in order to enable more detailed analysis of findings by sex and age. Where relevant, findings from different individuals have also been aggregated up to household level in order to provide comparisons with previous assessment rounds.
2. Disability was measured at the individual level using the Washington Group Short Set of disability questions.<sup>11</sup> This was to enable more robust analysis of the specific needs of people with disabilities.
3. In order to improve data quality, photos were added to the Kobo tool used by enumerators wherever relevant, allowing more straightforward identification of correct response options.

<sup>10</sup> During data cleaning, suspect values for water container volume were identified (too large or too small to be logical) in 221 assessed households. Container volumes for all these households were cleaned from the container dataset and these households were excluded from the analysis of all indicators related to volumes of water collected and stored in order to avoid skewing results.

<sup>11</sup> Washington Group on Disability Statistics. Short Set of Disability Questions. <https://bit.ly/2daMyJb> (accessed 10 September 2019).

## Challenges and Limitations

- Due to the different ways in which questions were asked (see above), findings for some key indicators in this assessment are not directly comparable with those of previous assessments.
- Kutupalong Registered Camp (RC) was not covered by this assessment due to persistent concerns around security of enumerator teams related to community hostility toward aid providers in this camp. Aggregate findings do not represent the population of this camp.
- The lack of a household list means that the sample frame of Open Street Map (OSM) shelters used to identify households for interview did not align fully with the family figures used to calculate required sample sizes. This is likely to have slightly skewed the probability of some households being selected for interview relative to others (in some cases OSM shelter footprints are outdated, with a small number of households having moved or been relocated without corresponding updates to the dataset).
- Findings based on the responses of a subset of the sample population have a lower confidence level and wider margin of error. For example, questions regarding menstrual hygiene management that were only asked to female household members yielded results with a lower precision at the camp level, and are therefore only reported on at the Upazila and overall levels.
- The method of household water consumption used does not take into account the use of large storage tanks now being used by a minority of households. For these households, daily water consumption has most likely been underestimated. Further, measurement of water consumed within the household does not take into account the large volumes of water consumed outside of the household in this context—for example while bathing or washing clothes at tubewells, or using communal latrines. This latter factor in particular should be taken into account when interpreting findings for relevant indicators against local and global standards.
- Biases due to self-reporting of household level indicators may exist. Certain indicators may be under-reported or over-reported, due to the subjectivity and perceptions of respondents (especially “social desirability bias”—the documented tendency of people to provide what they perceive to be the “right” answers to certain questions).<sup>12</sup> The possibility of such biases should be taken into consideration when interpreting findings. For example, on questions of satisfaction with WASH conditions and perceptions, high rates of households reporting being “very satisfied” or “satisfied” despite clear service gaps identified elsewhere in the assessment may be due to respondents perceiving this as the “right” way to respond.
- Data on several key indicators was collected by asking the respondent to report as a proxy on behalf of other individual household members. As data was not collected directly from each individual, there may have been potential for bias or inaccurate reporting on individuals by their proxies. This is particularly relevant for data related to disabilities, and may compromise the quality of these data displayed in this report.
- This assessment employed a quantitative approach only, involving a structured questionnaire with close-ended questions, which may mean some data are not robust enough to understand complex issues. This may be addressed by implementing qualitative assessments, focused on asking open-ended questions aimed at understanding reasons behind statistics presented in this survey.

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<sup>12</sup> For example, recent studies on experiences around complaints mechanisms in Myanmar have identified significant social and cultural barriers to people providing negative or assertive feedback. See 3MDG. Case Study: How effective are community feedback and response mechanisms in improving access to better health for all? Yangon, July 2016, p. 21-22.

## FINDINGS

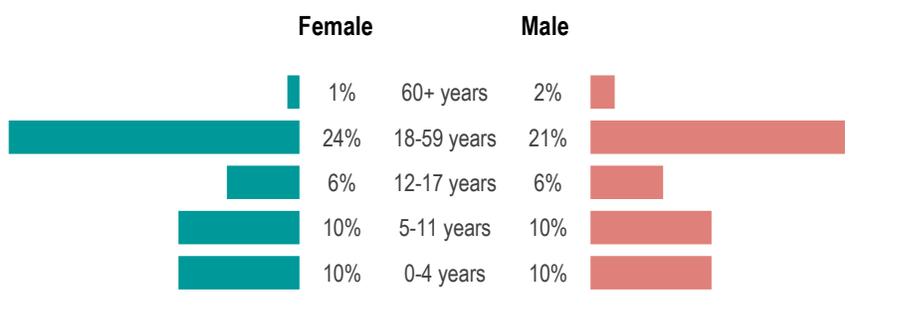
This section begins with an overview of demographics and surveyed households across assessed camps. Next, it outlines key findings across the domains of WASH (water, sanitation and hygiene), including a comparative analysis of findings with the baseline assessment. Wherever possible, findings are triangulated with secondary data sources.

### Demographics

Overall, 3,628 households were interviewed for this assessment. Of the respondents, 46% were female and 54% were male. Twenty-four percent (24%) of heads of household were reported as female, and 59% of households contained at least one child under five years old. Within assessed households, data on demographics and WASH practices was collected (by proxy via the respondent) from 16,1279 individuals. This included 3,249 individuals between 0 and 4, 3,311 individuals between 5 and 11, 1,991 between 12 and 17, 7,659 between 18 and 59, and 559 aged 60 and above.

A population pyramid of the age/gender breakdown of the population under study is provided in Figure 1 below.

Figure 1: Household composition by gender and age



### Disability

To assess individual and household disability prevalence for disaggregation against key WASH indicators, the Washington Group Short Set (WGSS) of Disability Questions was asked, via the respondent as a proxy, about each individual member of the household aged 5 and over (the WGSS is not designed to be implemented with children under 5). These questions ask about individuals' ability to perform basic universal activities in six core domains of walking, seeing, hearing, cognition, self-care and communication.<sup>13</sup>

Overall, 14% of households contained at least one person aged 5 and over with a disability, while 5% of individuals aged 5 and over were reported as having a disability. Disability prevalence was also found to vary by age group, with individuals aged 60 and over much more likely to have a disability (reported for 34% of individuals for this age group) compared to adults 18-59 (5%), children aged 12-17 (1%), and children aged 5-11 (2%). Of individuals reported as having disabilities, 61% were reported as having difficulties with mobility, followed by seeing (32%), self-care (25%), cognition (19%), hearing (15%), and communication (11%). It should be noted that disability is a complex concept and the WGSS is designed to identify most, but not all disabilities. In addition, while deemed acceptable by Washington Group guidance, collecting disability data via proxy rather than from individuals themselves is likely to result in under-reporting. Further, while WGSS questions are specifically designed to avoid stigmatising language, considerable stigma is reportedly attached to disability—especially psychological disability—in Rohingya communities, meaning

<sup>13</sup> For further reference, see Washington Group on Disability Statistics. "Short Set of Disability Questions." <https://bit.ly/2daMyJb> (accessed 17 September 2019). In line with Washington Group guidance, individuals reported as having "a lot" of difficulty or being completely unable to perform a task in any one of the six domains were classified as having a disability.

respondents may in some cases have been reluctant to discuss disabilities among individual household members.<sup>14</sup> These data should therefore be seen as a lower bound on possible disability prevalence among the refugee population.

## Water

This section begins by presenting findings related to water sources, followed by water collection practices, water access problems as well as coping strategies to deal with them. It then presents findings in relation to water containers; household water storage and consumption; water treatment; and residual chlorine. It concludes with an overview of findings relating to households' satisfaction with access to water.

Data from this follow-up assessment suggest that almost all households have access to improved water sources for drinking and non-drinking purposes,<sup>15</sup> indicating that the WASH response has sustained high coverage since the dry season of 2018 when the WASH household baseline assessment was implemented. However, despite this positive finding, data across all three assessments (April 2018, October 2018, and May 2019) suggests that reliance on unimproved sources and water access problems continues to occur at disproportionately high rates in some camps in southern Teknaf, particularly during the dry season. This is linked to the limited availability of groundwater supply in the area and consequent dependence on rainwater collection reservoirs—which risk depletion during prolonged dry spells—to supply water networks.

### Water sources

The WASH Sector aims to ensure access to safe water in sufficient quantities in all camps, both to minimise the spread of waterborne diseases—disproportionately affecting the wellbeing of younger children—and to facilitate adoption of improved hygiene practices. At the time of this follow-up assessment (April-May 2019), with water access in Ukhiya Upazila stabilising following large-scale decommissioning of unsafe waterpoints in the preceding year<sup>16</sup> (2018), the WASH Sector's Water TWiG has been directing efforts toward addressing the shortage of safe water in southern Teknaf.

Comparative analysis of findings from the baseline (April 2018) and follow-up (October 2018) assessments showed significant changes in the types of water sources used by households in the first year of the response. The most significant change was a decrease in use of tubewells following large-scale decommissioning of unsafe facilities (especially in Kutupalong), paralleling an increase in the use of piped water/tapstands following targeted installation in camps with shortages of adequate water supply. Data from May 2019 suggests households rely on these water sources at the same rates as October 2018.

Overall, over 99% of households reported using improved sources for their primary water sources for drinking – consistent with data from the first two assessments. The most commonly reported water source for drinking was tubewells, reported by 77% of households, followed by piped water/tapstands (19%), water tanks (2%), and protected dugwells (1%). The remaining households (less than 1% overall) reported using unimproved water sources including unprotected dugwells and surface water. Consistent with the first two assessments, findings from May 2019 point to significant differences in sources used for drinking water between Kutupalong and southern Teknaf. In Kutupalong, 89% of households reported using tubewells, compared to 20% of households in southern Teknaf. By contrast, only 10% of households in Kutupalong reported using piped water/tapstands, while around two thirds (65%) reported using them in southern Teknaf. Otherwise, while 2% of households overall reported using water tanks, households in Kutupalong (2%) were far less likely to use them compared with southern Teknaf (10%). Table 1 provides a full breakdown of primary drinking water sources per camp.

<sup>14</sup> See BBC Media Action. What Matters? Humanitarian Feedback Bulletin on Rohingya Response, Issue 27. Cox's Bazar, August 2019. <https://bit.ly/2YR5U2> (accessed September 2019).

<sup>15</sup> "Improved" water sources include tubewells/boreholes/handpumps, tapstand/piped water, protected dugwells, protected springs, water tanks, rainwater collection, and bottled water. "Unimproved" water sources include unprotected dugwells, unprotected springs, and surface water. See Cox's Bazar WASH Sector. WASH Sector Strategy for Rohingyas Influx March to December 2018. Cox's Bazar, March 2018. <https://bit.ly/2SjCcYn> (accessed 17 September 2019).

<sup>16</sup> Refer to WASH Sector Strategy March to December 2018 (accessed 17 September 2019).

Table 1: % of households reporting different primary drinking water sources, by camp

	Improved sources (all)	Improved sources					Unimproved	
		Tubewell	Piped water/tapstand	Protected dugwell	Water tank	Other protected	Surface water	Other unprotected
Camp 1E	100%	68%	32%	0%	0%	0%	0%	0%
Camp 1W	100%	84%	8%	5%	4%	0%	0%	0%
Camp 2E	100%	99%	1%	0%	0%	0%	0%	0%
Camp 2W	100%	98%	2%	0%	0%	0%	0%	0%
Camp 3	100%	94%	4%	0%	2%	0%	0%	0%
Camp 4	100%	96%	4%	0%	0%	0%	0%	0%
Camp 4 Ext	100%	84%	14%	0%	2%	0%	0%	0%
Camp 5	100%	77%	19%	1%	1%	2%	0%	0%
Camp 6	100%	80%	19%	0%	1%	0%	0%	0%
Camp 7	100%	93%	6%	0%	2%	0%	0%	0%
Camp 8E	100%	89%	9%	0%	3%	0%	0%	0%
Camp 8W	100%	92%	8%	0%	0%	0%	0%	0%
Camp 9	100%	96%	3%	0%	1%	0%	0%	0%
Camp 10	100%	100%	0%	0%	0%	0%	0%	0%
Camp 11	100%	100%	0%	0%	0%	0%	0%	0%
Camp 12	100%	95%	5%	0%	0%	0%	0%	0%
Camp 13	100%	89%	11%	0%	0%	0%	0%	0%
Camp 14	100%	72%	28%	0%	1%	0%	0%	0%
Camp 15	100%	77%	19%	0%	4%	0%	0%	0%
Camp 16	100%	91%	8%	0%	1%	0%	0%	0%
Camp 17	100%	90%	10%	0%	0%	0%	0%	0%
Camp 18	99%	77%	19%	0%	1%	2%	0%	1%
Camp 19	100%	98%	2%	0%	0%	0%	0%	0%
Camp 20	100%	98%	2%	0%	0%	0%	0%	0%
Camp 20 Ext	97%	96%	1%	0%	0%	0%	0%	3%
Camp 21	100%	47%	49%	0%	4%	0%	0%	0%
Camp 22	99%	9%	73%	7%	9%	1%	1%	0%
Camp 23	100%	100%	0%	0%	0%	0%	0%	0%
Camp 24	96%	14%	76%	1%	4%	2%	2%	1%
Camp 25	100%	43%	50%	0%	6%	1%	0%	0%
Camp 26	99%	31%	53%	1%	15%	0%	1%	0%
Camp 27	86%	24%	56%	2%	3%	1%	4%	9%
Nayapara RC	100%	1%	80%	3%	16%	1%	0%	0%
Kutupalong	99%	89%	10%	0%	1%	0%	0%	0%
Southern Teknaf	97%	20%	66%	1%	10%	1%	1%	1%
<b>Overall</b>	<b>99%</b>	<b>77%</b>	<b>19%</b>	<b>1%</b>	<b>2%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

Households were also asked if they used a secondary water source for other purposes such as cooking and cleaning. Consistent with data from October 2018, 16% of households reported using a secondary source, with the majority using tubewells (11% of all households), followed by piped water/tapstands (2%), and surface water (1%). Above-average proportions of households reported using tubewells as a secondary source in Camp 1E (22%) and piped water/tapstands as a secondary source in Camp 25 (10%) and Camp 6 (8%). Significantly more households reported using secondary water sources in Teknaf (25%) compared to Kutupalong (14%).

Findings in 2018 showed that households' reliance on unimproved water sources for drinking fell significantly between April and October in that year. Data from May 2019 suggests that reliance on unimproved water sources has continued to fall, although there were some exceptions. While reliance on unimproved water sources in Camp 27 fell from 17% in April 2018 to 6% in October 2018, it rose again to 13% in May 2019 – with households in this southern settlement resorting to unprotected dugwells (5%), surface water (4%), and unprotected springs (4%). The only other camps with any households reporting reliance on unimproved water sources for drinking were Camp 20 Extension and Camp 24 (both 3%), as well as Camp 18, Camp 22, and Camp 26 (all 1%).

Between April and July 2019, the WASH Sector and REACH implemented a coding system for all tubewells in all Inter Sector Coordination Group (ISCG)-recognised camps. This involved enumerators applying unique identifier tags onto all tubewells, and collecting unique information for each facility (type, sanitary conditions and location), with all information stored in a database. Findings from the coding exercise have been triangulated with data from this assessment May 2019 household assessment on use of tubewells in Kutupalong compared with southern Teknaf.

According to the coding data, there are 46 people per tubewell in Kutupalong, compared with 139 people per tubewell in the southern Teknaf camps. This aligns with household survey data demonstrating substantially higher rates of tubewell use in Kutupalong compared with Teknaf. Camps in which all surveyed households (100%) reported using tubewells as a primary drinking water source—Camp 10, Camp 11, and Camp 23—also featured among the lowest numbers of people per handpump, at 42, 41, and 16 respectively, with these three camps easily meeting the WASH Sector's target of 250 people per handpump.<sup>17</sup> Only four camps – Camp 22, Camp 24, Camp 26 and Nayapara RC – did not meet the 250 people/handpump target, with households in these camps instead more likely to rely on piped water/tapstands.

## Water collection

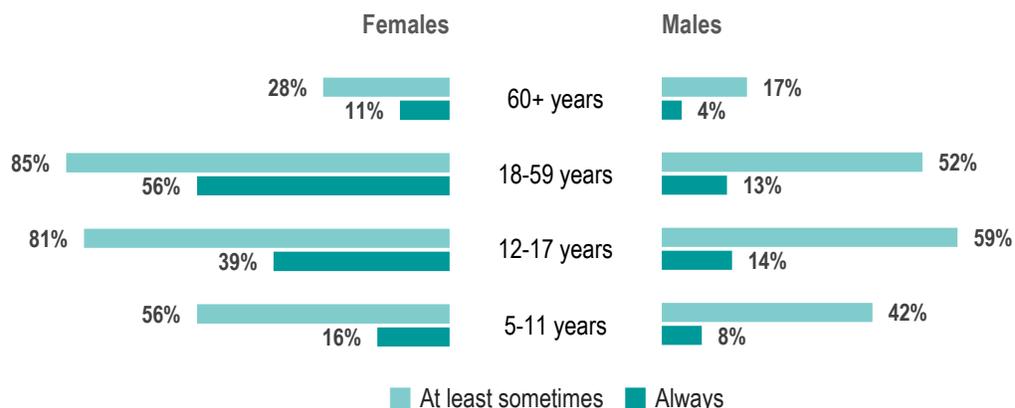
Understanding household water collection practices is central to water programming in the Rohingya refugee response. While findings from this follow-up assessment reaffirm that females are more likely than males to collect water, they also suggest that time spent waiting at the water source is significantly longer during dry season than during monsoon season – particularly in the water-scarce camps in southern Teknaf.

In the first two assessments, households were asked which family members normally collect water. In this follow-up survey, questions on water collection were instead asked about each individual by proxy, with respondents reporting on whether each individual over four years of age residing in the household collected water always, often, sometimes, or never. This was followed with separate questions on whether individuals identified as collecting water faced problems when doing so.

Findings from this assessment suggest that females are far more likely to collect water for households compared with males, as are adolescents and adults compared with children or the elderly. In addition, while males frequently support with collecting water on occasion, it is very rarely their dedicated responsibility (around half of males are reported as collecting water at least sometimes, compared to around 10% reported as always collecting water). Figure 2 below provides a detailed age and gender breakdown of water collection responsibilities.

<sup>17</sup> Standards for people per handpump are laid out in WASH Sector Strategy for Rohingyas Influx March to December 2018, p. 28.

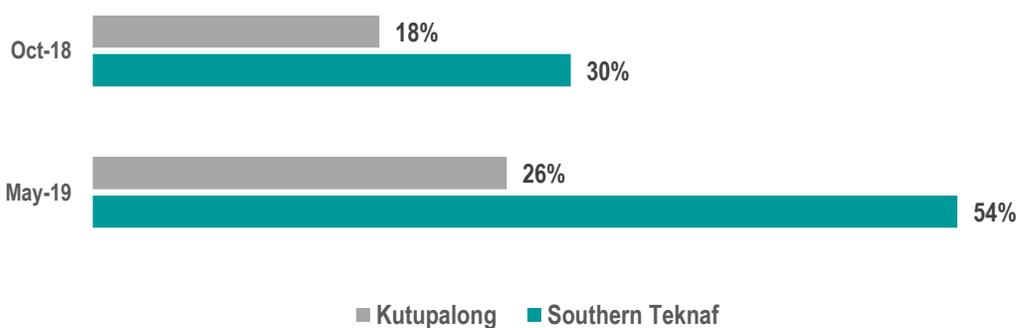
**Figure 2: % of individuals reported as collecting water at least sometimes vs. always collecting water, by age and gender**



As with the previous assessment, households were asked how long it normally takes them to collect water, incorporating time taken to walk to and from as well as waiting time at the water source. Overall, 31% of households reported taking more than 30 minutes to collect water, up from 21% in October 2018, with female respondents (41%) reporting this was the case at a higher rate than males (21%). Without further qualitative research it is not possible to identify the cause of this difference, although it may be linked to the fact that, as above, females are more frequently involved in water collection than males and this may influence their perception on the time it requires.

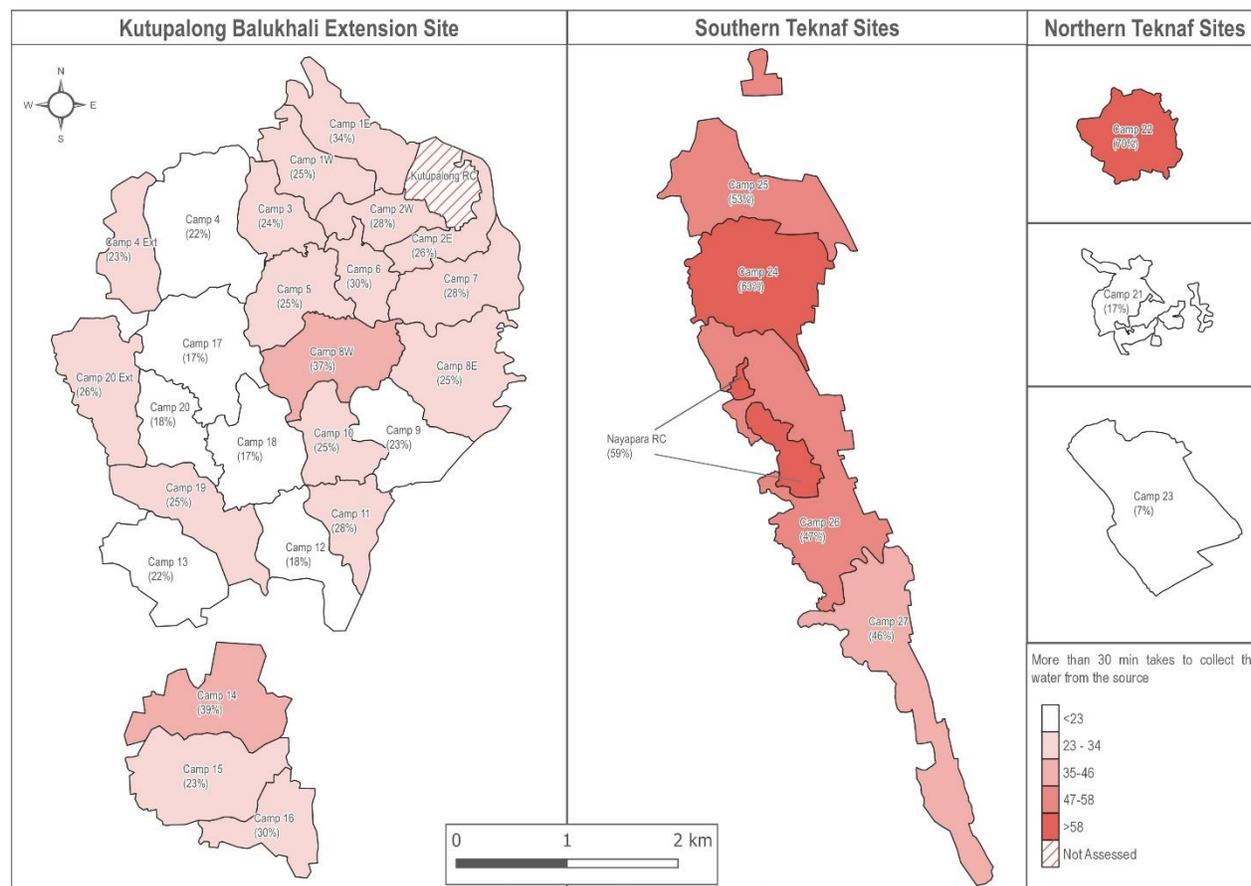
Findings from the monsoon season (October 2018) assessment highlighted that households in southern Teknaf were twice as likely to report total water collection times above 30 minutes compared to households in Kutupalong. As displayed in Figure 3, data from this May 2019 assessment suggests that long collection times affect substantially higher proportions of households during the dry season. This is especially true in Teknaf, where 54% of households reported taking more than 30 minutes to collect water, up significantly from 30% in October 2018. This figure also increased in Kutupalong, with 26% of households taking more than 30 minutes compared to 18% in October 2018.

**Figure 3: % of households reporting taking more than 30 minutes to collect water (travel to/from and waiting time at the water source), May 2019 vs. October 2018**



Significantly above-average proportions of households reported taking more than 30 minutes to collect water in Camp 22 (70%) in northern Teknaf, followed by camps in southern Teknaf: Camp 24 (63%), Camp 25 (53%), Camp 26 (47%), Camp 27 (46%) and Nayapara RC (59%). Conversely, the lowest proportions of households taking more than 30 minutes for total water collection were recorded in Camp 23 (only 7%), along with Camp 17, Camp 18, and Camp 21 (all 17%). Map 2 below presents findings relating to the proportion of households that reported taking more than 30 minutes to collect water (combined travel to/from and waiting time at the water source) in each camp.

**Map 2: % of households reporting taking more than 30 minutes to collect water (travel to/from and waiting time at the water source)**



Data from this assessment suggests that households spend longer times waiting at water points compared with traveling to them. Overall, 55% of households reported taking five minutes or less to collect water, similar to October 2018 (52%). In line with the above findings, 28% of households in Kutupalong reported normally spending less than 5 minutes at the water source, compared to only 11% of households in southern Teknaf camps. The longest waiting times at the water source were recorded in water-scarce Camp 22 and Camp 24, where households reported taking 30 minutes for waiting time only at 56% and 51% respectively.

### Problems and coping strategies

Addressing water access problems is an ongoing priority of the WASH Sector, to minimise barriers to consuming sufficient quantities of safe water. Identifying types of water access problems and the camps in which they are most commonly faced can assist in informing water programming to address them.

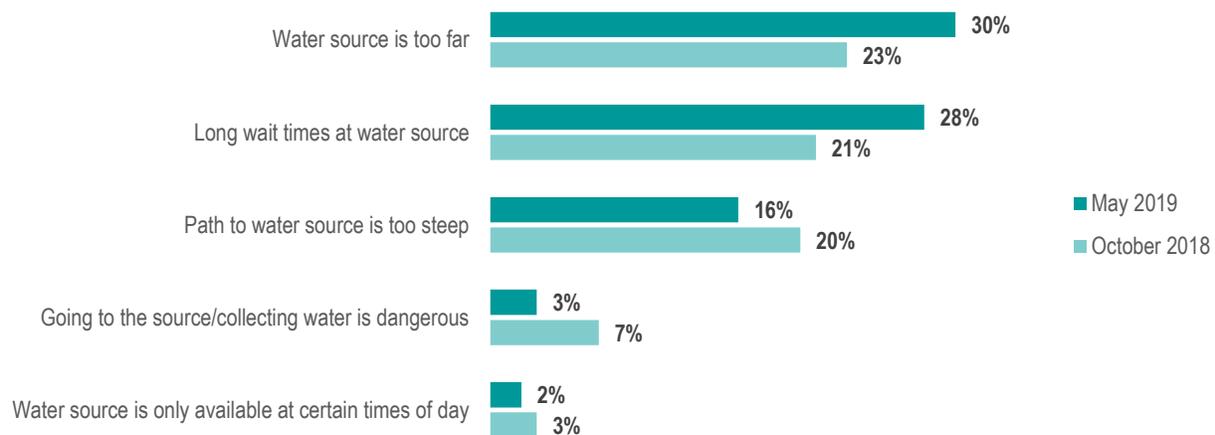
In the first two assessments, respondents were asked if their household faces problems accessing water, and if so what types of problems they faced. In this follow-up survey, when respondents indicated (by proxy) that individual household members collect water for the household, they were asked whether these individuals face problems collecting water, along with a question on the types of problems they face. To enable comparability across the three surveys, presentation of individual data aggregated to the household level is presented first,<sup>18</sup> followed by an overview of the differences between age-gender groups from this follow-up assessment only.<sup>19</sup>

<sup>18</sup> A household is considered to face problems accessing water if at least one member from the household was reported as facing problems

<sup>19</sup> October 2018 data was only reported at household level.

Data from the first two assessments pointed to significant improvements in households' access to water, with 56% reporting facing problems in the dry season (April), down to 38% in the monsoon season (October) in 2018. In this follow-up assessment (May 2019), 43% of households reported at least one member facing problems. Households were more likely to face problems accessing water in southern Teknaf (50%) than in Kutupalong (42%). The highest rates of households facing problems accessing water were in Camp 22 (72%), Camp 8W (66%), Camp 27 (62%), and Camp 24 (60%). The most common problems were the source being too far (reported by 30% of all households) – especially in Camp 22 (58%) and Camp 8W (53%), along with long wait times at the source (reported by 28% of all households) which was most commonly reported in Camp 22 (68%). Rates of households facing different types of problems in each camp are displayed in Annex 2. Overall, while data are not directly comparable due to different question framing, types of problems were reported at broadly similar rates compared to October 2018 (see Figure 4).

**Figure 4: % of households reporting at least one individual facing problems when collecting water, May 2019 vs. October 2018<sup>20</sup>**



Individuals reported as collecting water always, often, or sometimes were asked if they faced problems doing so, and if so what types of problems they faced. Overall, reported differences between ages and genders were small: females reported problems at similar rates to males, with older individuals slightly more likely to be reported as facing problems compared to younger individuals (see Table 2 below). By contrast, individuals with disabilities were significantly ( $p < 0.05$ ) more likely to be reported as facing problems collecting water (56%) compared to those without (38%). Individuals reported as facing problems were asked a separate question on the types of problems they face, with the most common problems for each age-gender group “long wait times at the water source,” the “water source is too far,” followed by the “path to water source is too steep” – with no significant differences between age-gender groups for any of these problems.

<sup>20</sup> This question was asked about each individual in each household reported as collecting water at least “sometimes”, with more than one response possible. Data for individuals within each household were then aggregated to the household level.

**Table 2: Of individuals reported as collecting water, % reported as facing problems while doing so, by age and gender**

	Age	Of individuals reported as collecting water, % reported as facing problems while doing so	Type of problem reported <sup>21</sup>		
			Long wait times at source	Source too far	Path to source too steep
Females	60+	43%	32%	27%	9%
	18-59	40%	27%	25%	14%
	12-17	37%	28%	22%	15%
	5-11	36%	26%	22%	15%
Males	60+	41%	24%	24%	5%
	18-59	38%	27%	25%	14%
	12-17	37%	29%	25%	15%
	5-11	33%	23%	21%	12%

In addition to the questions on individual household members' water collection practices, households were asked if there had been times where they could not access enough water for drinking in the week prior to data collection.<sup>22</sup> Overall, 6% of households reported facing this problem, especially in southern Teknaf (18%) compared with Kutupalong (4%) – with the highest rates recorded in Camp 27 (24%), Camp 24 (23%), Nayapara RC (22%), and Camp 22 (17%).

Households that did report facing problems accessing enough drinking water in the week prior to data collection were asked about the types of coping strategies they employed to deal with this problem. Since low rates of households reported facing problems in the week prior to data collection, very few households reported employing different types of coping strategies. Overall, 3% of households reported relying on less preferred (unimproved) water sources for drinking, with 2% of households reporting sending children to collect water.<sup>23</sup> Other coping strategies employed to a lesser extent were household members drinking less, collecting water from a source further than the one normally used, and spending money on water (all reported by 1% of households overall).

In Camp 27, the most common coping strategies were collecting water from a source further than the one normally used (reported by 18% of households). In Camp 24, 11% of households reported relying on less preferred water sources for drinking, and 10% of households reported collecting water from a source further than the one normally used. Finally, in Nayapara RC the most common coping strategy was relying on less preferred water sources for drinking, reported by 9% of households, with 7% reporting relying on less preferred water sources for non-drinking. No significant differences were recorded based on gender of respondent for this indicator.

### Household water storage containers

In the second year of the response, the WASH Sector's Hygiene Promotion TWiG has emphasised the need for implementing partners to ensure the provision of aluminium pitchers and plastic buckets to refugees when being relocated to a different site.<sup>24</sup> Positive trends can be observed across the three household assessments in households' possession of these types of containers.

<sup>21</sup> Respondents could select more than one option.

<sup>22</sup> The October 2018 survey included questions on households employing coping strategies to deal with insufficient water in the month prior to data collection. In the current assessment a one-week recall period was used in order to improve data quality. However, this means that data relating to these indicators are not directly comparable across the two assessments.

<sup>23</sup> The denominator for this indicator is all households. This question was only asked directly to the 233 households that reported times in the week prior to the assessment when they did not have access to sufficient drinking water.

<sup>24</sup> The WASH Sector's hygiene distribution guidance also recommended implementing partners to provide aluminium pitchers and buckets to newly-arrived refugees in the first year of the response.

As in October 2018, this follow-up survey included a range of questions about each water container in all assessed households. Information collected for each container included: i) type of container;<sup>25</sup> ii) type of water being stored (drinking, non-drinking, or both); iii) measurements to determine water volume; iv) whether or not the container was covered; v) if the household uses the container to collect water on a normal day, and if so, how many times; vi) if the container was cracked (by enumerator observation); vii) and residual chlorine (c/r) test results. Containers were tested for chlorine using pool testers if households reported they were used for drinking water.

Consistent with October 2018, the most common type of water container possessed by households overall was aluminium pitchers, with 96% of households possessing at least one - and household possession rates exceeding 90% in almost all camps except Camp 22 (76%). The second most common type of container was plastic buckets, possessed by 76% of households, demonstrating a continued increase in their possession by households (from 19% in April 2018 and 62% in October 2018), followed by plastic jerrycans (13%), plastic containers (12%), and plastic jugs (11%). Plastic jerrycans were the only type of container with significantly varying possession rates between camps, with as many as 59% of households possessing them in Camp 22, and as few as 3% in Camp 2W.

**Table 3: Water storage container possession and use**

Container type	Aluminium pitcher	Plastic bucket	Plastic container	Jerrycan	Plastic jug
					
% of households reporting possession of containers	96%	76%	12%	13%	11%
% of containers used for drinking water only	65%	11%	13%	22%	74%
% of containers used for non-drinking water only	17%	80%	72%	58%	5%
% of containers used for both drinking and non-drinking water	18%	9%	15%	20%	21%
% of containers that were covered with a lid/plate/plastic	90%	66%	85%	89%	89%

Overall, aluminium containers and plastic jugs were predominantly used for storing drinking water, while plastic buckets, containers, and jerrycans were predominantly used for storing non-drinking water (although around one-fifth of all containers except buckets were also used to store water for both drinking and non-drinking uses). Separately, respondents were asked if each container is used to collect water on a normal day, producing data to further understand households' water collection practices. Ninety-one per cent (91%) of aluminium pitchers were reported as used to collect water on a normal day, with 84% jerrycans used to collect water daily. Plastic buckets were reported as used for collecting water to a lesser extent at 56%, with the remaining 44% likely used for storing water within households only.

Understanding the conditions of containers, including whether they are covered or cracked, as well as households' container cleaning practices, can assist in understanding the causes of household level contamination and inform priority areas for hygiene promotion interventions, such as safe water chain awareness and training. As with the previous assessment, enumerators observed if containers were covered with a lid, plastic or plate, and whether they were cracked. Overall, 88% of all containers were covered, consistent with data from the assessments in April and October in 2018. Almost all (97%) of containers used for storing drinking water or both drinking/non-drinking water

<sup>25</sup> Enumerators collected information for a total of 11,171 containers, including 5,368 aluminium pitchers, 4,072 plastic buckets, 520 plastic containers, 656 jerrycans, and 429 plastic jugs.

were covered, against 61% for containers used for storing non-drinking water only. Overall, only 2% of containers were cracked, with no significant difference between camps or type of container recorded.

In the October 2018 survey, enumerators observed and recorded information on whether containers were clean. In the current survey, households were instead asked whether they cleaned the containers they used specifically for drinking water, to understand the risks of disease transmission in households' consumption of drinking water. Overall, 97% of households reported cleaning containers used for drinking water, including 54% reporting cleaning containers with soap and water and 43% using water only. In terms of cleaning frequency, 61% of households reported cleaning containers every day, 33% every two to three days, and 4% cleaning rarely – either once a week or less than once a week. No significant differences between Kutupalong and southern Teknaf were reported for the above indicators, with some variation across camps for households reporting cleaning containers with soap (ranging from 73% in Nayapara RC to 37% in Camp 1W) and cleaning containers rarely (with Camp 14 significantly below average at 18%).

### Household water storage and collection volumes

As with October 2018, this survey used direct measurement household water containers to provide best-guess estimates on water storage and consumption volumes (see Box 1 in the methodology section). Household water storage volumes show a clear improvement from October 2018. Fifty-two percent (52%) of households met the UNHCR standard of at least 10 litres per person of water storage capacity (up from 26%),<sup>26</sup> while 35% (up from 23%) of households met the Cox's Bazar WASH Sector standard of two drinking water containers of at least 10 litres volume each.<sup>27</sup> In both cases, as with October 2018, around 10% fewer households in Kutupalong met these standards when compared to southern Teknaf.

Container volumes were then multiplied by frequency with which they were refilled each day to provide best-guess estimates of the amount of water collected in households (see Box 1 in the methodology section). However, it is important to note that these findings do not fully account for overall household water consumption for two reasons. First, many households consume substantial amounts of water off-site, whether bathing or doing laundry at tubewells, or defecating in shared latrines. Second, households may store water for several days—especially in large drums being provided by some WASH actors—meaning they are not necessarily collecting water on a daily basis. In this respect, 91% of households reported storing drinking water for less than a day, with the remaining households reporting one to two days (8%) or three to four days (1%).

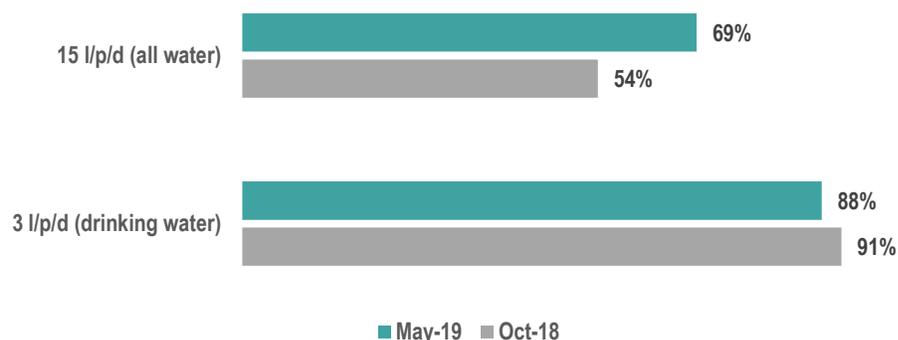
At the response level, the average volume of drinking water collected per person, per day was 14 litres, a substantial increase from 9 litres per person per day reported in October 2018. Around the same proportion of households in May 2019 (88%) and October 2018 (91%) reported collecting at least 3 litres of drinking water per person, per day—the SPHERE minimum standard commonly used by WASH actors for monitoring purposes (see Figure 5 below).<sup>28</sup> Rates of households meeting this standard varied between camps: while as few as 80% of households in Camp 5 and Camp 22 met the 3-litre standard, as many as 96% in Camp 6 and Camp 9 did.

<sup>26</sup> UNHCR, "Emergency Water Standard." <https://bit.ly/2IVjWJ1> (accessed 17 September 2019).

<sup>27</sup> WASH Sector Strategy for Rohingyas Influx March to December 2018, p. 19.

<sup>28</sup> The 2018 SPHERE handbook outlines minimum standards for household drinking water consumption at 3 litres per person per day, and consumption of water for all domestic uses at 15 litres per person per day as minimum standards. As discussed above, this assessment only accounts for water collected and not necessarily water consumed. See: <https://spherestandards.org/handbook-2018/>

Figure 5: % of households meeting SPHERE minimum standards for litres of water collected per person, per day



In terms of water collected for all domestic uses (drinking and non-drinking combined), the average volume per person, per day was 26 litres in May 2019 – with around two thirds (69%) of households meeting the SPHERE minimum standard of 15 litres compared with only 54% in October 2018.<sup>29</sup> The lowest rates of households exceeding this 15-litre threshold were all in the water-scarce southern Teknaf area, including Nayapara RC (51%), Camp 22 (57%), Camp 24 (41%), and Camp 27 (55%). The latter three of these camps also included the highest rates of households facing problems collecting water. As outlined in Box 2, several camps in Teknaf saw a decrease in average water volumes collected for all domestic purposes relative to October 2018, even as volumes of water collected for drinking increased.

#### Box 2: Impact of dry season on household water collection in southern Teknaf

Comparative analysis of water collection data suggests that the dry season disproportionately affects the amount of water collected by households in southern Teknaf. The below table displays changes to average volumes of water collected by households in the dry season (May 2019) compared with the monsoon season (October 2018) in the camps of greatest concern to the WASH Sector during the dry season in terms of water scarcity. While the average volumes of drinking water collected in the five camps increased in the dry season, lower average volumes of total water collected were recorded in Camp 24, Camp 26, and Nayapara RC. This suggests that households in these camps may be using lower volumes of water for non-drinking purposes during the dry season due to water shortages in the southern Teknaf area.

#### Average litres of water collected per person, per day by households in key Teknaf camps: 2018 Monsoon Season vs. 2019 Dry Season

	Drinking water		All water (drinking and non-drinking)	
	October 2018	May 2019	October 2018	May 2019
Camp 22	9 litres	14 litres (+5)	21 litres	21 litres (-)
Camp 24	8 litres	12 litres (+4)	21 litres	16 litres (-5)
Camp 26	8 litres	16 litres (+8)	23 litres	21 litres (-2)
Camp 27	8 litres	13 litres (+8)	20 litres	22 litres (+2)
Nayapara RC	11 litres	13 litres (+2)	21 litres	19 litres (-2)
<b>All camps</b>	<b>9 litres</b>	<b>14 litres (+5)</b>	<b>20 litres</b>	<b>26 litres (+6)</b>

<sup>29</sup> The 2019 Joint Response Plan (JRP) also includes the following indicator: % of targeted people in camps benefitting from at least 20 l/p/d safe water for drinking and other domestic purposes. See Strategic Executive Group. 2019 Joint Response Plan for Rohingya Humanitarian Crisis, January-December. Dhaka, February 2019, p. 80. In May 2019, 53% of households collected at least 20 l/p/d for all drinking water. See: <https://bit.ly/2kkFWwr> (accessed 17 September 2019).

Overall, these findings point to a clear differentiation in water access during the dry season between Kutupalong in southern Teknaf: in Kutupalong, volumes of water collected for both drinking and domestic purposes in the current dry season have generally increased compared to the previous monsoon season, despite households reporting somewhat longer waiting times. In southern Teknaf by contrast, many households appear to be reducing the amount of water collected for domestic purposes compared to monsoon season, even as the amounts of water collected for drinking only have increased. This is matched with substantial increases in reported water collection times.

## Water treatment

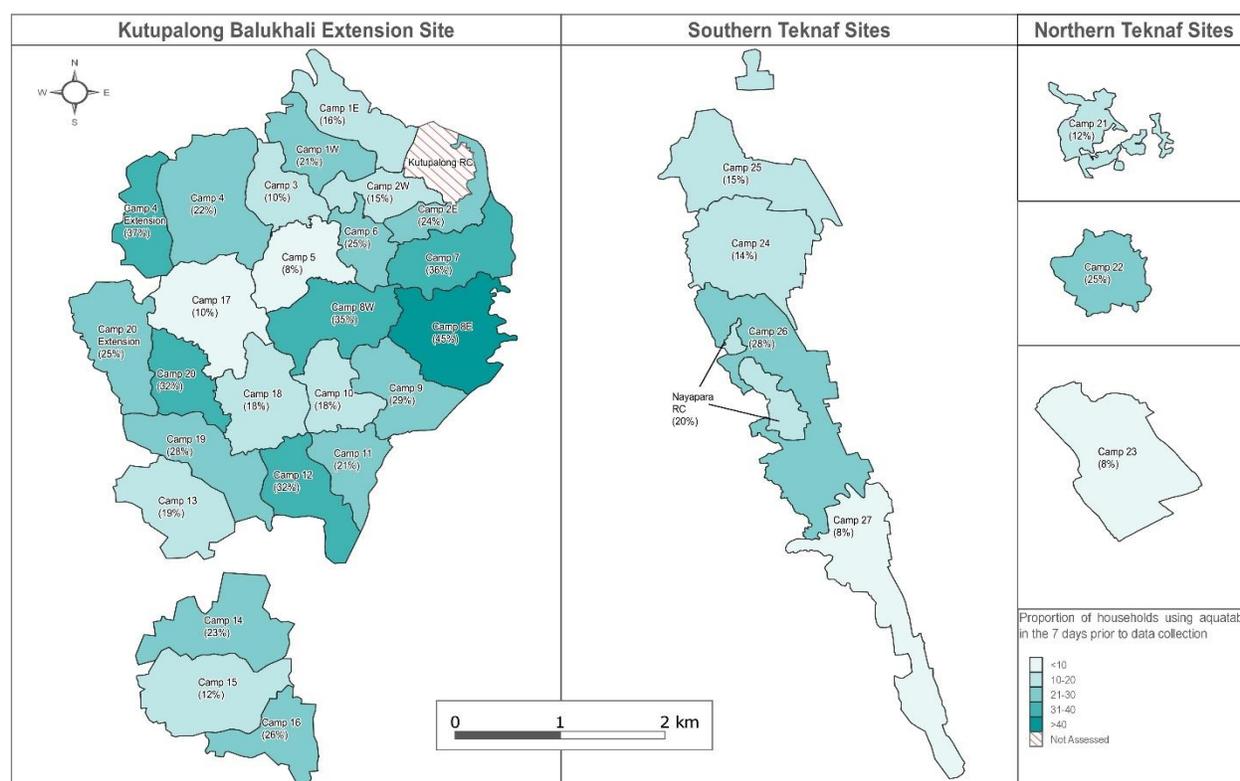
In the first year of the response, the WASH Sector's hygiene promotion TWiG made significant progress in expanding the reach of water treatment such as aquatabs to households, with almost double the rate of households reporting using them in October 2018 compared with April 2018. In the first two assessments, households were asked if they "normally" treat water before drinking. However, in this follow-up assessment, households were instead asked whether they had used water treatment to make it safer to drink specifically in the seven days prior to data collection, with the introduction of a specific recall period aimed at generating more accurate data. As such, the following comparative analysis should be observed bearing in mind the inclusion of this recall period.

While rates of households treating water rose from 17% in April 2018 to 38% in October 2018, they fell to 25% in May 2019. While no significant differences were recorded between Kutupalong and Teknaf in terms of treating water before drinking, this decline in households treating water was particularly evident in Camp 14 (27% down from 64%), Camp 18 (18% down from 63%), and Camp 3 (11% down from 65%). However, female respondents reported that their households treated drinking water at twice the rate of males, at 34% versus 18% respectively. Given that female household members appear to be primarily responsible for collecting water (see above), this could suggest that female members are also directly responsible for households' water treatment and that male members are less aware of this process. However, further research would be required to confirm this hypothesis.

Consistent with data from the first two assessments, by far the most common type of water treatment used in May 2019 was aquatabs (reported by 21% of households, down slightly from 30% in October). The rates of households reporting using aquatabs differed greatly between camps (see Map 3 below), with the highest rates recorded in Camp 8E (45%), Camp 4 Extension (37%) and Camp 7 (36%), and the lowest rates recorded in Camp 5, Camp 23, and Camp 27 (all 8%). Use of alternative types of water treatments was reported by households to a lesser extent, including cloth filters (3%), followed by PUR sachets, household filters and boiling water (all 1%), with no significant differences reported between camps.

The WASH Sector's Water TWiG prioritises the distribution of aquatabs in camps outside the chlorinated piped water/tapstand network coverage area, to minimise risks of over-chlorinating water which can have negative health effects on the community—especially children. This approach was reflected in May 2019 data, with households using tubewells for drinking water more likely to report using aquatabs (23%) in the two weeks prior to data collection compared with households using piped water/tapstands (16%). However, this latter statistic suggests that a substantial minority of households are at risk of over-chlorination.

Map 3: % of households reporting using aquatabs in the seven days prior to data collection

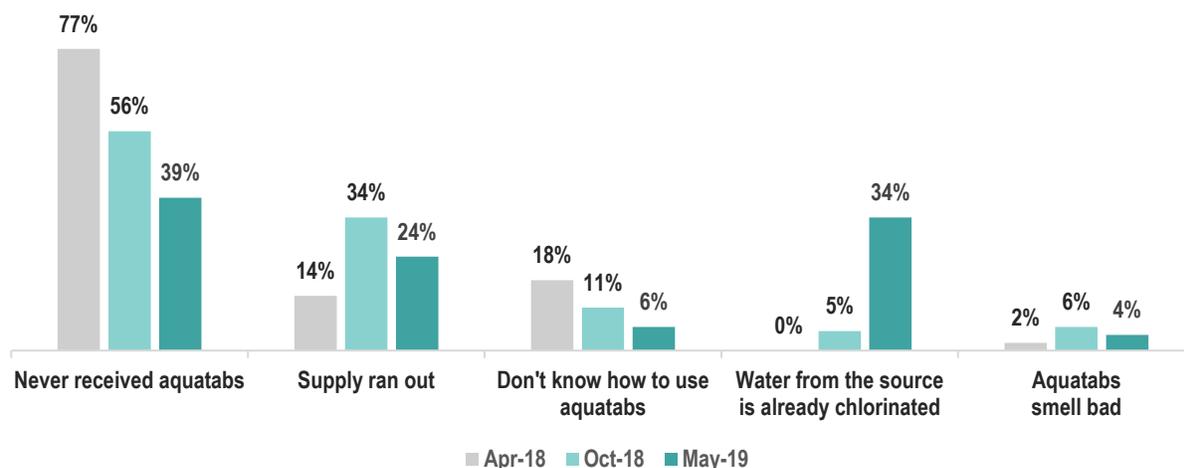


Households that did not report using aquatabs or PUR sachets in the seven days prior to data collection were asked why not, enabling comparison with data from the first two assessments. Households that did not report using aquatabs or PUR sachets indicated this was due to never receiving them (reported by 39% of all households), that the water is already chlorinated (34%), followed by the supply running out (24%).<sup>30</sup> As displayed in Figure 6 (page 28), reasons for not using aquatabs or PUR sachets have changed since April 2018 – with fewer households reporting never receiving them, and more households reporting that the water source is already chlorinated. In general, households that reported using piped water as their primary drinking water source were more likely to report not using aquatabs because the source was already chlorinated (42%) when compared to households using other water sources (22%).

Rates at which households reported reasons for not using aquatabs or PUR sachets varied between Kutupalong and southern Teknaf. Households were less likely to report never receiving aquatabs or PUR sachets in Kutupalong (29%) than in southern Teknaf (35%), which also applied to not using aquatabs because the water source already being chlorinated (25% in Kutupalong versus 37% in Teknaf). However, households in Kutupalong were far more likely to report that their supply of aquatabs/PUR sachets had run out (22%) compared to 4% in Teknaf.

<sup>30</sup> Data presented for this indicator relates to the proportion of all surveyed households (not the subset of households that reported not using aquatabs or PUR sachets), enabling comparison between surveys and across camps for this May 2019 survey

Figure 6: Of households not using aquatabs, % reporting reasons for non-use, May 2019 vs. October 2018 and April 2018



### Residual chlorine testing results

Enumerators were trained to use pool testers to test for residual chlorine in water containers that households reported were used for drinking water. In May 2019 enumerators tested a total of 11,172 containers for chlorine.<sup>31</sup> As outlined in the previous assessment, the Bangladeshi Department of Public Health Engineering (DPHE) standard for residual chlorine matches the SPHERE household standard, outlining amounts of between 0.2 and 0.5 mg/l as safe. Overall, 77% of drinking water containers were recorded as having 0.1 mg/l or less of residual chlorine. Since <0.1 mg/l was the lowest value possible on the pool testers used by enumerators (i.e. the meters on the testers did not make a distinction between 0 and >0 but <0.1), this is likely to mean that the majority of containers had no trace of chlorine at all. Meanwhile, 6% of containers had .3 mg/l – meaning that only 6% of containers fell within the acceptable DPHE and SPHERE range. The remaining 2% of containers had between .6 and 3 mg/l of residual chlorine. The only outlier with regard to residual chlorine data was recorded Camp 22, where a third (33%) of all tested containers fell within the DPHE and SPHERE range, at .3 mg/l.

### Satisfaction with water access

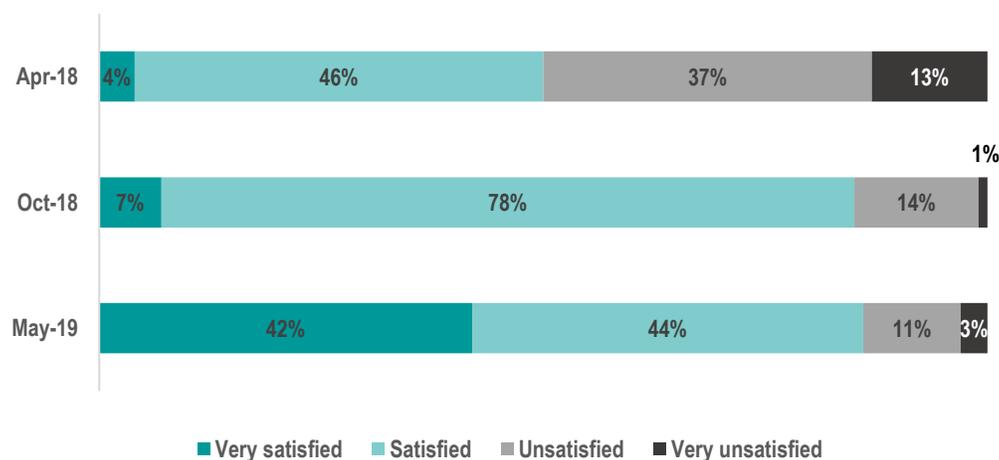
As with the first two assessments, households were asked how satisfied they were with access to water. Overall, 42% of households reported being very satisfied, 44% satisfied, 11% unsatisfied, and 3% very unsatisfied. Overall, the proportion of households reporting being satisfied or very satisfied has remained constant between October 2018 and May 2019, following major improvements between April 2018 and October 2018 (see Figure 7 on page 29). Notably, a significantly higher proportion of households reported being very satisfied with access to water in May 2019 (42%) compared with October 2018 (7%) and April 2018 (4%). At camp level, the lowest rates of satisfaction with water access were reported in Camp 22 (where 68% of households reported being satisfied or very satisfied), followed by Nayapara RC (69%). Despite households experiencing more challenges in accessing water in southern Teknaf compared to Kutupalong, similar rates of households' satisfaction were recorded in both areas (88% for Kutupalong against 82% for southern Teknaf). No significant differences were recorded based on gender, age of respondent, or type of water source for these indicators.

It is important to note that for this and other satisfaction data presented in this report, rates of satisfaction are surprisingly high given clear issues identified with areas of service provision (e.g. households reporting members facing problems collecting water, or long water collection times). Further, anecdotal evidence suggests that respondents may

<sup>31</sup> In the April 2018 survey, enumerators tested containers only when households reported using aquatabs on the day of survey, resulting in only 182 tests being conducted and rendering these data indicative only.

fear explicitly providing negative feedback to service providers for fear of this impacting services. This may therefore suggest that satisfaction data is more reflective of response biases than it is of genuinely high levels of satisfaction with WASH service provision.<sup>32</sup>

Figure 7: % of households reporting different levels of satisfaction with access to water, April 2018-October 2019



## Sanitation

This sub-section begins with an overview of findings relating to defecation and bathing practices, focusing primarily on availability and accessibility of infrastructure. It continues with an overview of data related to community consultations in the design and construction of latrines and bathing facilities, before concluding with a presentation of findings on environmental sanitation, including disposal of child faeces; domestic and solid waste management; and stagnant water nearby households.

Findings from the three WASH household assessments suggests that while sanitation conditions across the camps improved significantly between April and October 2018, they remained relatively stable between October 2018 and May 2019. This is demonstrated by households reporting members defecating and bathing in the same types of spaces, as well as maintaining similar household waste practices, as they did in October 2018. Findings on laundry practices are an exception, with data suggesting that more households completed this task inside the household in May 2019 compared with October 2018. To strengthen the knowledge base around environmental sanitation, this survey included several new questions on burning and separating waste, latrines overflowing, as well as emptying of rubbish bins nearby households.

## Defecation

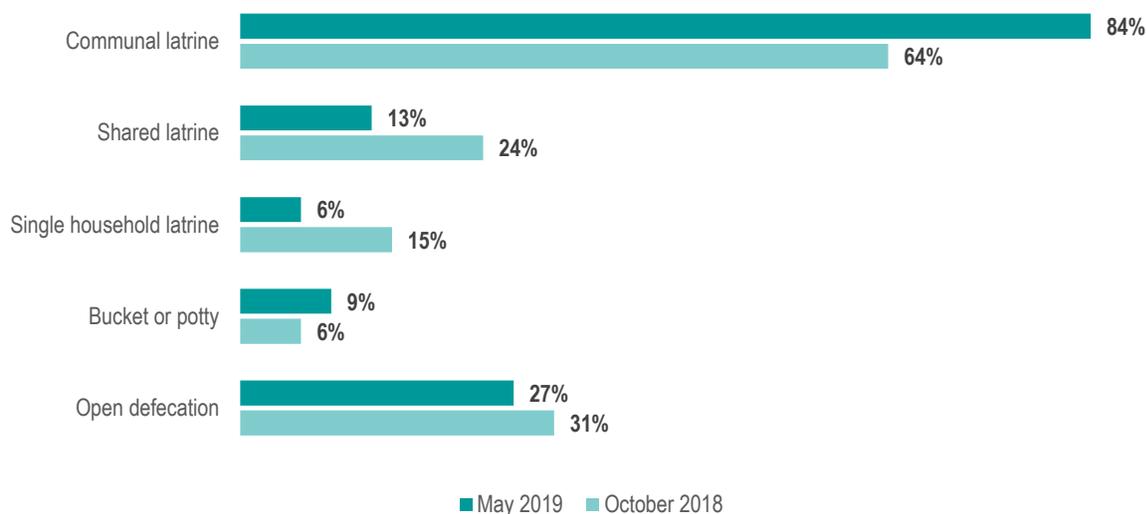
### Latrine availability

Overall, the most common type of facilities used by households were communal/public latrines, with 84% of households reporting at least one member using them. This was followed by shared household latrines at 13% (including 2% self-made and 11% non-self-made), and single household latrines at 6% (including 5% self-made and 1% non-self-made). Regarding alternative defecation practices, small minorities of households reported at least one member using potties (5%), buckets (4%), cloth (4%), and plastic bags (2%). Figure 8 provides a comparative analysis of defecation data for this assessment against October 2018. While these figures are not directly comparable to October 2018 data due to

<sup>32</sup> For example, recent studies on experiences around complaints mechanisms in Myanmar have identified significant social and cultural barriers to people providing negative or assertive feedback. See 3MDG. Case Study: How effective are community feedback and response mechanisms in improving access to better health for all? Yangon, July 2016, p. 21-22.

differences in the way the question was asked, they do suggest that the use of communal latrines has increased, while the use of both household and shared latrines has declined between October 2018 and May 2019.

Figure 8: % of households reporting at least one member defecating in different spaces, May 2019 vs. October 2018<sup>33</sup>



Overall, 27% of households reported at least one individual as practicing open defecation. As was the case in October 2018, this was in almost all cases an individual under 5, implying that a significant proportion of households continue to dispose of infants’ faeces in an unsafe manner (further detail on disposal of infant faeces is provided on page 36).

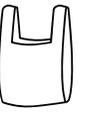
Differences between camps were reported regarding households’ places of defecation. Higher rates of use of shared latrines and lower rates of communal latrines were reported in camps 12 (26% of households reporting at least one individual using shared latrines vs. 71% reporting communal latrines), 19 (33% shared against 61% communal), and 26 (27% shared against 69% communal). Conversely, 100% of households in Camp 4 Extension—a newer camp with a planned layout—reported using communal latrines. Above-average proportions of households reported practicing open defecation in Camp 6 (44%) and Camp 5 (41%) – posing a significant risk to the contamination of soil and waterways nearby households in these settlements. By contrast, below-average proportions of households reported practicing open defecation in Camp 2W (10%) and Camp 1W (13%).

As displayed in Table 4 below, differences in reported defecation practices of individual household members vary primarily with age, with very little gender variation. This broadly reflects findings from October 2018, where similarly few gender variations were observed.<sup>34</sup> Overall, around a third of children under five (36% females, 39% males) were reported as practicing open defecation, while similar proportions (36% males and 38% females) were reported as using communal/public latrines, and the remainder were reported as using potties, plastic bags, or cloth. For all individuals aged over 5, individual latrine usage tracks with the above trends in household usage, with communal latrines by far the most commonly used, followed by shared and then single-household latrines. For individuals aged 60 and over, small numbers (<5%) of both genders were also reported as using buckets and potties.

<sup>33</sup> Five most common responses shown. In May 2019, respondents were asked where each individual member normally defecated. In October 2018, respondents were asked where different groups of household members normally defecated, specifically female household members, male household members, and children under 5. In May 2019 “potty” was added as an additional response option alongside “bucket.” These two options have been combined in this analysis to facilitate comparison.

<sup>34</sup> In October 2018, females and males were reported as using sanitation facilities at almost identical rates, including communal latrines (63% against 64%), shared household latrines (23% against 22%), and single household latrines (14% against 13%).

Table 4: % of individuals reported as defecating in different spaces, by age and gender

Facility type	Communal or public	Shared (non-self-made)	Shared (self-made)	Single household (non-self-made)	Single household (self-made)	Bucket	Cloth	Plastic bag	Potty	Open defecation	
											
Female	> 60	76%	12%	1%	1%	5%	3%	0%	0%	2%	0%
	18-59	82%	11%	2%	1%	4%	0%	0%	0%	0%	0%
	12-17	83%	11%	3%	1%	2%	0%	0%	0%	0%	0%
	5-11	83%	11%	1%	0%	4%	0%	0%	0%	0%	1%
	0-4	38%	6%	1%	0%	2%	0%	4%	2%	11%	36%
Males	> 60	79%	11%	1%	0%	4%	4%	0%	0%	1%	0%
	18-59	82%	11%	2%	1%	4%	0%	0%	0%	0%	0%
	12-17	84%	10%	3%	0%	3%	0%	0%	0%	0%	0%
	5-11	81%	13%	1%	0%	4%	0%	0%	0%	0%	1%
	0-4	36%	5%	1%	0%	2%	0%	5%	2%	10%	39%

### Latrine accessibility

The May 2019 survey asked about whether individuals faced difficulties accessing latrines only if they were reported as using either communal, shared, or self-made latrines, while in the October 2018 survey respondents were asked whether females and males within the household faced access problems regardless of the type of latrine used. To enable comparability, data for both assessments has been aggregated to the household level. As outlined in previous sections, this is to enable analysis of key trends rather than to make direct comparisons of data points since questions were asked in different ways for different assessments.

Around one-third of households (34%) reported at least one individual—male(s) or female(s)—facing problems when accessing or using latrines, broadly similar to the 37% of households in the October 2018 assessment. Again consistent with findings from October 2018, households were more likely to report members facing problems accessing latrines in Kutupalong (36%) compared with southern Teknaf (25%). Hotspots for households reporting members facing problems included Camp 6 (57%) and Camp 4 (53%) while the lowest rates were reported in Camp 4 Extension (5%) and Camp 20 Extension (8%)—both newer, planned sites.

By far the most commonly reported problem with accessing or using latrines was too many people using them, with 26% of households reporting at least one member facing this issue.<sup>35</sup> This problem was most commonly reported in Camp 1E (48%), Camp 2E (43%), and Camp 4 (41%). Other commonly reported problems included the latrine being unclean (10%), especially in Camp 6 (26%) and Camp 4 (24%). Latrines being too far was also commonly reported (14%), as was the latrine being full (8%). Overall, slightly more households in Kutupalong reported individuals facing overcrowding and distance as problems.

<sup>35</sup> This question was asked about each individual in each household reported as using communal, shared, or household latrines, with more than one response possible. Data for individuals within each household were then aggregated to the household level.

Individual household member data suggests that age is a significant factor linked to individuals facing problems accessing or using latrines, with individuals aged 60 and over significantly more likely to be reported as facing problems compared to adults, and children under 12 and especially under 5 less likely to be reported as facing problems (see Table 5 below). Disability was also found to be a major factor, with 39% of people aged 5 and over with disabilities reported as facing access challenges compared to 29% of people aged 5 and over with no disabilities.<sup>36</sup>

**Table 5: Of individuals reported as using latrines, % reported as facing problems when doing so, by age and gender**

	Age	Of individuals reported as using latrines, % reported as facing problems when doing so <sup>37</sup>	Type of problem reported <sup>38</sup>			
			Too many people using latrines	Latrine is too far away	Path to the latrine is unsafe	No gender segregation
Females	60+	39%	30%	20%	11%	4%
	18-59	30%	24%	12%	5%	5%
	12-17	32%	22%	12%	5%	6%
	5-11	25%	20%	10%	4%	2%
	0-5	16%	16%	9%	4%	1%
Males	60+	38%	28%	15%	8%	4%
	18-59	29%	22%	10%	4%	3%
	12-17	28%	22%	12%	5%	2%
	5-11	24%	19%	9%	4%	2%
	0-5	14%	15%	8%	2%	1%

Across all ages, females were only very slightly more likely to be reported as facing problems compared to males. This marks a major difference compared to October 2018, where households were more likely to report female members facing problems (39%) compared to male members (24%). For the current assessment, it is important to note that individual-level data differed according to the gender of the proxy reporting it. When a female was the respondent, 34% of female individuals were reported as facing problems, whereas when a male was the respondent, 29% of female individuals were reported as facing problems. By contrast, male individuals were reported as facing problems at the same rates by both male and female respondents (30%). Coupled with secondary data suggesting that females face significant gendered challenges around latrine access,<sup>39</sup> this suggests that the study's results are likely under-reporting the gender differences on this issue.

#### Protection issues related to latrine access

When individuals were reported as using latrines, respondents were also asked if these individuals feel unsafe with accessing or using them.<sup>40</sup> Overall around a fifth of households (22%) reported at least one individual in their household feeling unsafe when accessing latrines—broadly similar to the 26% reporting at least one member feeling unsafe in October 2018.<sup>41</sup> While no significant differences were reported between Kutupalong and southern Teknaf, households in some camps were more likely to face problems in some camps compared with others (see Map 4 below). Significantly above-average proportions of households reported feeling unsafe in Camp 8W (55%), Camp 4 (51%), Camp 12 (45%), Camp 26 (43%), and Camp 19 (41%), while significantly below-average proportions reported this was the case in Camp 6 (8%), Camp 9 (4%), and Camp 16 (7%).

<sup>36</sup> Children under 5 were not assessed for disability as this is beyond the scope of the Washington Group Short Set.

<sup>37</sup> This question was only asked when individuals were reported as using communal, shared household, or single household latrines; if the individual was a child, enumerators asked the respondent if the caregiver faced any problems in accessing the space where the child defecates.

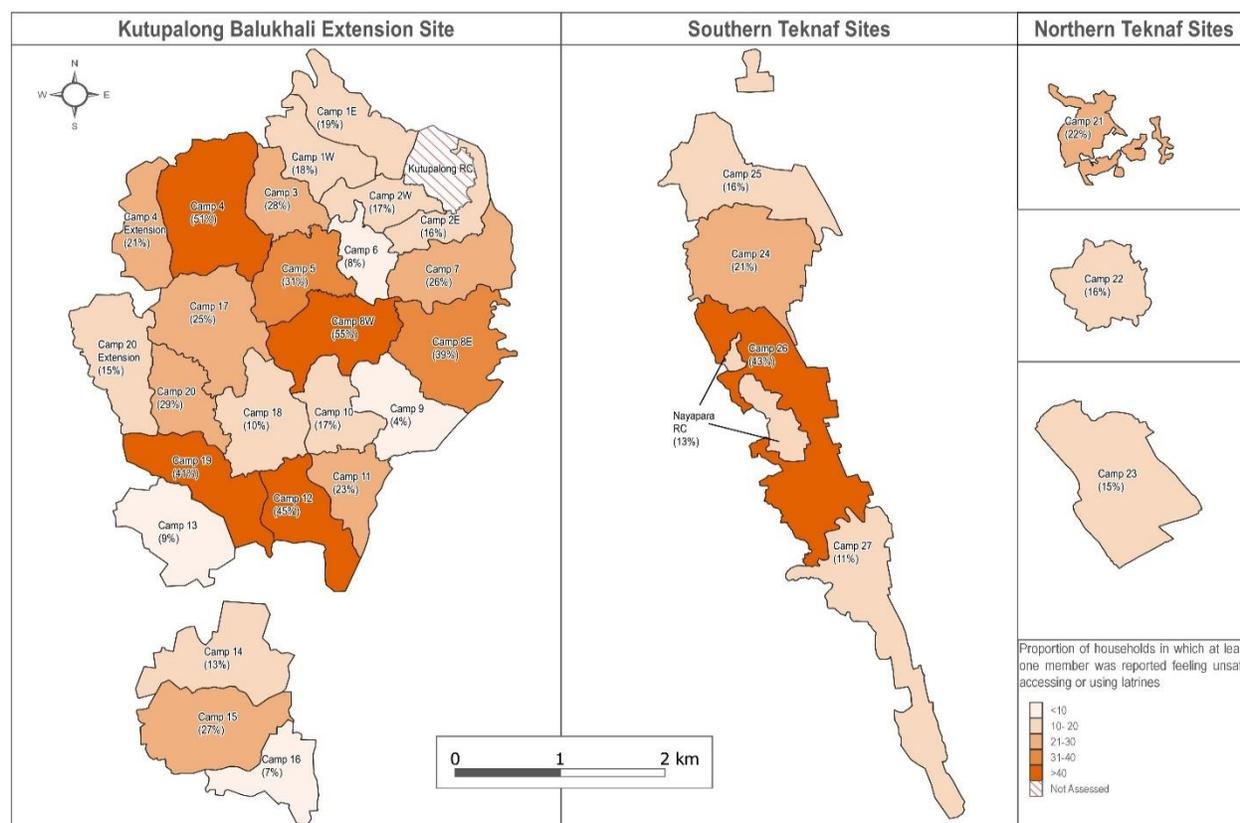
<sup>38</sup> Respondents could select more than one option. This question was only asked in cases where individuals were reported as facing problems accessing or using latrines.

<sup>39</sup> Strengthening the humanity in humanitarian action in the work of the WASH sector in the Rohingya response, p. 5.

<sup>40</sup> As above, questions about safety when accessing latrines were only asked if individuals were reported as using communal, shared, or household latrines.

<sup>41</sup> In October 2018 households were asked if adult males, adult females, elderly males, elderly females, and girl and boy children in the household felt safe using latrines, regardless of the type of latrine used. October 2018 and May 2019 data are thus not directly comparable as data points but nevertheless presented to allow for trend analysis.

Map 4: % of households in which at least one member was reported as feeling unsafe accessing or using latrines



Overall, there was very little age or gender difference in the proportion of individuals reported as feeling unsafe when accessing latrines—20% of individuals overall were reported as facing this issue, with no significant differences by either age or gender. By contrast, individuals with disabilities were somewhat more likely to be reported as feeling unsafe, with 28% of individuals aged 5 and over with a disability reported as feeling unsafe, compared to 20% of individuals aged 5 and over without a disability. There were again significant differences within data reported for individuals when broken down by gender of respondent. Specifically, male respondents were much more likely to report household members of both genders as feeling unsafe compared to female respondents, with both genders of respondent reporting similar proportions of male and female individuals as feeling unsafe (when the respondent was male, 28% of female individuals and 27% of male individuals were reported as feeling unsafe when using latrines; when the respondent was female, only 15% of females and 13% of males were reported as feeling unsafe). As with the reports of problems regarding latrine access faced by individual household members, this difference once again highlights the limitations of using proxies to report on the experiences of specific individuals.

Overall, protection-specific access barriers to latrines were not widely reported. Only 7% of households reported at least one individual facing access challenges related to dangers on the way to latrines, while 6% respectively reported at least one individual facing access challenges due a lack of segregation, and safety concerns at latrines, and a further 1% reported inadequate privacy as an access challenge. These findings should again be read with caution in conjunction with secondary data that highlights in more qualitative detail the range of substantial protection concerns refugees face when accessing latrines.

## Traveling to and from latrines

Enumerators asked how long it took to walk to and from the latrine normally used by the household.<sup>42</sup> In this survey the majority of households (72%) reported normally taking five minutes or less to walk to the latrine, consistent with October 2018 findings (74%). Otherwise, 21% of households reported taking 10 minutes to walk to the latrine, with 4% taking 15 minutes, and 3% taking 20 minutes or more. Households in Kutupalong and southern Teknaf reported similar travel times to and from latrines. The only site with an above-average proportion of households taking longer to walk to latrines was Camp 1W, where 21% of households reported taking 15 minutes or more (compared with the overall average of 7%). By contrast, only 1% of households reported taking 15 minutes or more in Camp 26 and Camp 27.

## Difficulties accessing latrines on time

A key issue identified in the inclusion audit of the WASH Sector was the need for agencies to design programming ensuring that people experiencing incontinence have access to appropriate assistance and materials.<sup>43</sup> Following publication of the audit report, the WASH Sector's Hygiene Promotion TWiG initiated a joint incontinence taskforce, aimed at identifying appropriate actions (such as provision of materials and accessories to vulnerable individuals) for incorporation into WASH programming across the response.

While this WASH household assessment does not cover items or accessories for managing incontinence, respondents were asked if each household member faced problems accessing the toilet on time. Data arising from this question are linked to the incontinence taskforce's objectives of informing targeted programming to address camps and population groups of greatest concern. While data broken down by age-gender group do not relate specifically to incontinence, it may assist in understanding which groups are more likely to experience it than others.

Overall, 28% of households contained at least one individual reported as facing problems accessing the toilet on time, with no significant differences between Kutupalong and southern Teknaf. This issue was most commonly reported in Camp 2E (52%), Camp 4 (47%), and Camp 3 (45%), with the lowest proportion of households reporting it in Camp 20 Extension (5%), Camp 27 and Camp 12 (both 12%). At individual level, individuals aged 60 and over—especially women—were more likely to be reported as facing problems (37% for women and 30% for men of this age group). By contrast, only 20% of individuals aged 12-59 and 17% of individuals aged 5-11 were reported as facing problems, with no significant differences between genders.<sup>44</sup> Individuals aged 5 and over with disabilities were significantly more likely to report facing problems, at 31%, compared to 19% of individuals aged 5 and over without disabilities.<sup>45</sup>

## Latrine quality

Issues related to the quality of sanitation infrastructure were measured in a parallel REACH assessment of a sample of latrines and bathing spaces carried out in June 2019.<sup>46</sup> According to this assessment, 69% of latrines met basic functionality criteria (roof, four walls, a functioning lockable door, and a pan not clogged or full), although 20% had clogged pans. To triangulate this information, a small number of questions related to latrine quality were included in the current assessment in order to complement or triangulate other data.

## Latrines overflowing

Households were asked if any of the latrines normally used by the household have overflowed in the three months prior to data collection. Overall, 43% of households reported this was the case. No significant differences between

<sup>42</sup> Since all households contained at least one individual reported as using a latrine (communal/public, single household, or shared household), all households were asked how long it normally takes to walk to the latrine normally used by the household. If household members were reported as using different types of facilities, enumerators asked how long it takes to walk to the furthest one.

<sup>43</sup> Strengthening the humanity in humanitarian action in the work of the WASH sector in the Rohingya response, p. 45.

<sup>44</sup> Data related to elderly people experiencing incontinence from May 2010 broadly align with findings from a study implemented by HelpAge in 2018 focused on problems faced by elderly people in the camps. In that study, 17% of individuals reported experiencing incontinence problems. Around three quarters of this group (77%) stated they are struggling and not getting any support. Forty-three percent (43%) of elderly people with disabilities who have difficulty getting out of living places were also reported to have incontinence. See Strengthening the humanity in humanitarian action in the work of the WASH sector in the Rohingya response, p. 67.

<sup>45</sup> Children under 5 were not assessed for disability as this is beyond the scope of the Washington Group Short Set.

<sup>46</sup> REACH Initiative. Rohingya Response Joint Response Plan (JRP) Mid-term Review Workshop. Cox's Bazar, July 2019. <https://bit.ly/2IPjmg0> (accessed 15 September 2019).

Kutupalong and southern Teknaf were reported, while the highest rates of this happening was reported in Camp 3 and Camp 11 (both at 58%), contrasting with the lowest rates in Camp 4 Extension (15%) and Camp 20 Extension (21%).<sup>47</sup>

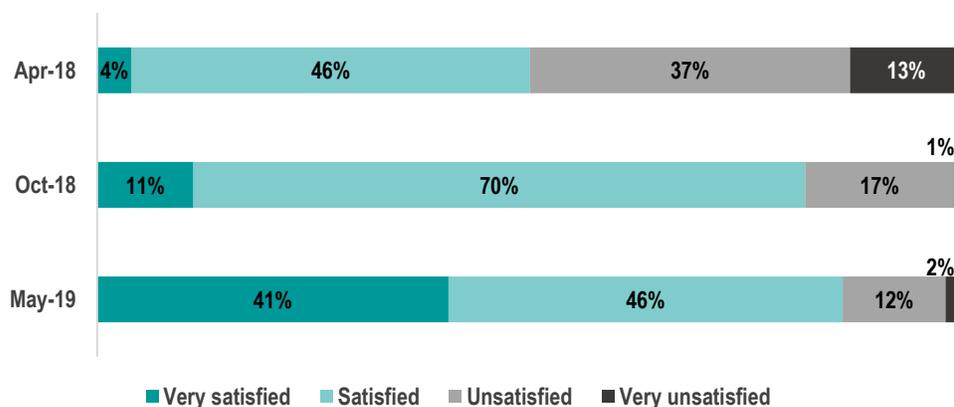
### Soap at latrines

Overall, 17% of respondents reported that soap was available at their most commonly used latrine the last time they used it. While no significant differences were reported between Kutupalong and southern Teknaf, considerable variations were recorded between camps, ranging from highs in Camp 4 Extension (40%) and Nayapara RC (34%), to lows in Camp 4, Camp 6, and Camp 9 (all 6%).<sup>48</sup>

### Satisfaction with access to latrines

In all three WASH household surveys – April 2018, October 2018, and May 2019 – households were asked how satisfied they are with access to latrines. In the current survey, 41% of households reported being very satisfied, 46% satisfied, 12% unsatisfied, and 2% very unsatisfied. Rates of households reporting being satisfied or very satisfied rose significantly between April 2018 (50%) and October 2018 (80%), and continued to rise to 87% in May 2019. As with satisfaction regarding water access, a significantly higher proportion of households reported being very satisfied with access to latrines in May 2019 (41%) compared with October 2018 (11%) and April 2018 (4%). Households in Kutupalong were less likely to report being satisfied or very satisfied compared with Teknaf, at 86% and 95% respectively, while at camp level the lowest rate of satisfaction with access to latrines was recorded in Camp 6 (with 71% reporting being very satisfied or satisfied). As above, it is important to view these findings with a degree of caution as they may well be related more to response bias (respondents wanting to provide the “right” answer) than a reflection of respondents’ true perceptions.

**Figure 9: % of households reporting different levels of satisfaction with access to latrines, April 2018-May 2019**



### Disposal of children’s faeces

In addition to questions on latrine usage, respondents in households with children under five were asked how these children’s faeces were normally disposed of. Overall, 79% of households with children under five reported employing at least one safe method of disposing of children’s faeces.<sup>49</sup> This included 73% of households collecting and disposing of children’s faeces in a latrine, with 6% reporting that children always used sanitation facilities. Otherwise 49% of households reported employing at least one unsafe method to dispose of children’s faeces. This included 30%

<sup>47</sup> In the parallel REACH assessment of physical infrastructure, 20% of latrines across all camps were found to have a pan that was either clogged or full. See Rohingya Response Joint Response Plan (JRP) Mid-term Review Workshop.

<sup>48</sup> In October 2018, 71% of respondents reported that there was soap at the latrine normally used when they last used it. However, since publication of the October 2018 report a translation error for this question was noticed, meaning that data reported for this indicator in October was not valid and cannot be used for comparison with current data.

<sup>49</sup> Data for October 2018 are not comparable as this question was only asked to a smaller subset of households who did not report children using sanitation facilities.

collecting and disposing of children’s faeces in an open area, 9% burning it, 8% disposing it with garbage, 1% collecting and disposing of it in an open area, and 1% reporting that nothing is done with it.<sup>50</sup> No significant differences were reported between Kutupalong and southern Teknaf or by gender of respondent. Overall, 58% of households reported using safe methods only, while 20% reported using a mixture of safe and unsafe methods and a further 22% reported using only unsafe methods.

**Table 6: Of households with children under 5, % reporting employing safe vs. unsafe methods for disposal of child faeces<sup>51</sup>**

Methods	May 2019
<b>✓ Safe methods</b>	
<b>Only safe methods used</b>	<b>58%</b>
Collect and dispose in latrine	73%
Children always use sanitation facilities	6%
<b>X Unsafe methods</b>	
<b>Only unsafe methods used</b>	<b>22%</b>
Dispose in an open area	30%
Bury it	9%
Dispose with other garbage	8%
Dispose inside the shelter	1%
Nothing is done with it (open defecation)	1%

## Bathing

### Bathing facility availability

Overall, the most commonly used type of bathing space was makeshift space inside the shelter (with 62% of households reporting at least one member using them), followed by tubewells (43%), and communal bathing facilities (43%). Additionally, 1% of households reported individuals bathing in surface water, with 6% of households reporting individuals not having a designated facility at all. Rates of using tubewells for bathing varied significantly between Upazilas, with households in Kutupalong (54%) far more likely to use them compared with Teknaf (12%) – aligning with the geographical difference in use of tubewells for drinking and non-drinking water.

Differences in types of bathing spaces used were also reported between camps. As many as 82% of households reported individuals using a makeshift space in the shelter in Nayapara RC, while as few as 23% reported this was the case in Camp 4 Extension. Additionally, significantly above-average proportions of households reported using communal/public facilities in Camp 4 Extension (94%), Camp 16 (74%), and Camp 26 (72%), compared with below-average proportions of households reporting using them in Nayapara RC (17%) and Camp 8W (17%). Use of tubewells for bathing also varied significantly between camps, ranging from highs in Camp 4 (78%) and Camp 11 (75%), to lows in Nayapara RC (9%) and Camp 27 (3%). Additionally, two settlements – Camp 27 and Nayapara RC – featured high rates of households bathing in surface water, at 19% and 17% respectively.

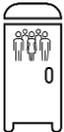
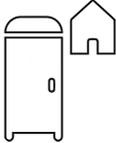
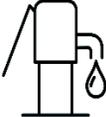
Unlike defecation, individual data suggests that bathing practices vary significantly based on gender—particularly among adolescents and adults. As displayed in Table 7 below, females aged 5 and over were most commonly reported as bathing inside the household—as were children under 5 of both genders—while males aged 5 and over were most

<sup>50</sup> The denominator for this indicator is households with at least one child aged under 5 (n=2,319). As a consequence, margin of error and confidence level are insufficient to allow for presentation of findings at camp level for this indicator.

<sup>51</sup> Respondents could select more than one option.

commonly reported as using tubewells. Communal facilities were the second-most preferred facilities among females aged 5 and over, while for males aged 5 and over communal facilities and household facilities were used at broadly similar rates. Questions in the October 2018 survey only concerning males and females in the household independent of age and are not directly comparable as data points. Broad comparison suggests that males are using tubewells as bathing spaces less frequently in favour of spaces within the household, while use of facilities by females has remained largely constant.

Table 7: % of individuals reported as bathing in different spaces, by age and gender

Facility type	Communal bathing facility	Inside the household	Tubewell	Surface water	Other / no designated facility	
					<b>NA</b>	
Female	> 60	33%	60%	1%	0%	6%
	18-59	37%	53%	3%	0%	7%
	12-17	37%	51%	4%	0%	8%
	5-11	30%	44%	19%	0%	7%
	0-4	16%	58%	18%	0%	8%
Males	> 60	27%	31%	33%	1%	8%
	18-59	28%	25%	41%	2%	4%
	12-17	23%	16%	54%	2%	5%
	5-11	23%	26%	45%	0%	6%
	0-4	14%	54%	22%	0%	10%

### Bathing facility accessibility

The current survey asked about whether individuals faced difficulties accessing bathing facilities only if they were reported as using communal bathing facilities or tubewells, while in the October 2018 survey respondents were asked whether females and males within the household faced access problems regardless of the type of facilities used. To enable comparability, data for both assessments have been aggregated to the household level. As above, this is to enable analysis of key trends rather than to make direct comparisons of data points since questions were asked in different ways for different assessments.

Overall, 13% of households reported at least one individual facing problems accessing or using bathing facilities, with problems slightly more prevalent in Kutupalong (14%) compared to Teknaf (9%), and problems reported at significantly above-average rates in Camps 1E (23%), 1W (21%), and 2E (26%).<sup>52</sup> This represents a small decline from October 2018, when 23% of households reported at least one individual facing problems accessing or using bathing facilities. The most commonly reported problem by households was “too many people using bathing facility” (reported for at least one individual in 10% of households), followed by “bathing facility is too far away” (reported by at least one individual in 6% of households), with almost identical findings reported by households in October 2018 (11% for crowding and 7% for distance). No significant differences were reported between Kutupalong and southern Teknaf for types of problems, with overcrowding again reported at significantly above-average rates in Camps 1E-2E.

<sup>52</sup> This question was asked about each individual in each household reported as bathing at communal bathing facilities or tubewells, with more than one response possible. Data for individuals within each household were then aggregated to the household level.

As displayed in Table 8, individual data suggests elderly individuals were more likely to be reported as facing problems than adults, while females were slightly more likely to be reported as facing problems than males across all age groups. As with latrines, individuals aged 5 and over with disabilities were significantly more likely to be reported as facing problems at 21%, compared to 12% of individuals aged 5 and over without disabilities.

**Table 8: Of individuals reported as using communal facilities or tubewells for bathing, % reported as facing problems when doing so, by age and gender**

	Age	Of individuals reported as using communal facilities or tubewells for bathing, % reported as facing problems when doing so	Type of problem reported <sup>53</sup>	
			Too many people using bathing facilities	Bathing facility is too far away
Females	60+	24%	19%	12%
	18-59	15%	12%	5%
	12-17	15%	12%	6%
	5-11	9%	7%	3%
	0-5	9%	5%	4%
Males	60+	15%	10%	8%
	18-59	12%	9%	6%
	12-17	11%	8%	5%
	5-11	10%	8%	4%
	0-5	8%	6%	3%

#### Protection issues relate to bathing facility access

When individuals were reported as using communal facilities or tubewells, respondents were also asked if these individuals feel unsafe with accessing or using them. Overall, only 9% of households reported at least one individual as feeling unsafe—substantially lower than for latrines, and identical to figures reported in October 2018.<sup>54</sup> No significant differences were observed by area or camp. Individual-level data for this question closely reflected data related to access problems reported in Table 8 above, with elderly people more likely to be reported as feeling unsafe than adults or children, and females—especially elderly females—slightly more likely to be reported as feeling unsafe than males. Again, people with disabilities were substantially more likely to be reported as feeling unsafe, with 23% of individuals aged 5 and over with a disability reported as feeling unsafe, compared to only 5% of individuals aged 5 and over without a disability. Unlike for latrines, there were no substantial differences in answers given based on the gender of the respondent.

As with latrines, protection-specific access barriers to latrines were not widely reported. Only 2% of households reported at least one individual facing access challenges related to lack of privacy, while 1% reported individuals facing challenges due to lack of gender segregation, safety issues on the way to bathing spaces, and safety issues at bathing spaces.

#### Traveling to and from bathing facilities

Households containing at least one individual reported as bathing at public/community facilities or tubewells were asked approximately how long it normally takes to walk to and from the bathing facility normally used.<sup>55</sup> Of this group of households, 79% reported taking five minutes to walk to and from bathing facilities (consistent with 76% reported in October 2018), with 17% reporting taking 10 minutes, 3% taking 20 minutes, and 1% taking 30 minutes or more. Travel

<sup>53</sup> Respondents could select more than one option.

<sup>54</sup> In October 2018 households were asked if adult males, adult females, elderly males, elderly females, and girl and boy children in the household felt safe using bathing facilities, regardless of the type of facility used. October 2018 and May 2019 data are thus not directly comparable as data points but are nevertheless presented to allow for trend analysis.

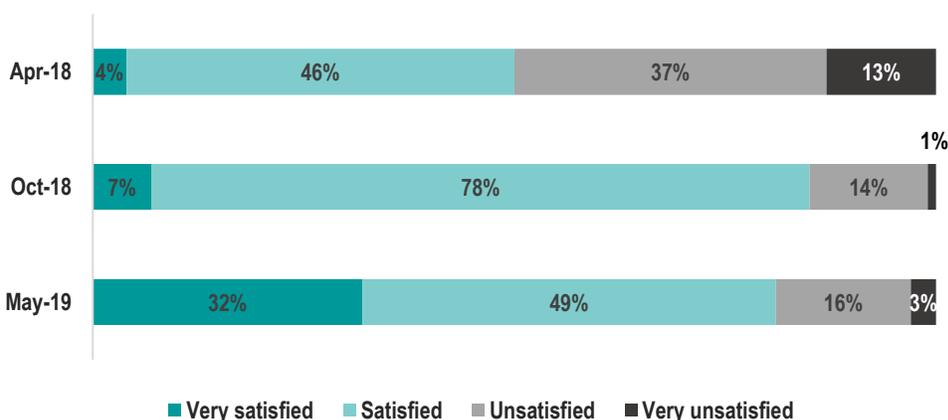
<sup>55</sup> If households used different bathing facilities, they were asked how long it normally took to walk to/from the furthest one.

times to and from bathing facilities did not differ significantly between Kutupalong and southern Teknaf or across camps.

### Satisfaction with access to bathing facilities

Households were asked about their level of satisfaction with access to bathing facilities. The same question was asked in April 2018 and October 2018, enabling comparison across the three surveys. In the current survey, overall 32% reported being very satisfied with access to bathing facilities, 49% satisfied, 16% unsatisfied, and 3% very unsatisfied. While rates of households reporting being very satisfied or satisfied with access to bathing facilities rose significantly between April 2018 (50%) and October 2018 (85%), this proportion remained around the same in May 2019 (81%). However, a greater proportion of households reported being very satisfied in May 2019 than in October 2018. No significant differences were reported between gender of respondent or between Kutupalong and southern Teknaf. The lowest rates of households being very satisfied or satisfied were reported in Camp 6 (62%), Camp 9 (65%), and Camp 11 (69%). Camp 10 was the only site with an above-average proportion of households reporting being very satisfied or satisfied, at 96%.

Figure 10: % of households reporting different levels of satisfaction with access to bathing facilities, May 2018-October 2019



### Laundry

Households were asked where they normally did their laundry. The most commonly reported laundry space was inside the shelter (reported by 53% of households), followed by tubewells (30%), and communal/public bathing facilities (17%). This represents a shift from October 2018 when comparatively fewer households reported doing laundry inside the shelter (31%), while more reported using communal/public bathing facilities (34%), with tubewells being used at similar rates (35%).

Households were more likely to report doing laundry inside the shelter in southern Teknaf (54%) compared with Kutupalong (39%), with major differences also evident between camps. Doing laundry inside the shelter was most commonly reported in Nayapara RC (88%), Camp 24, and Camp 22 (both 70%), while this practice was reported least frequently in Camp 4 Extension (3%) and Camp 23 (11%). Use of tubewells for laundry reflected the distribution of tubewell infrastructure, with more households in Kutupalong reporting this practice (37%) compared to southern Teknaf (6%).

### Consultation regarding the design and construction of sanitation facilities

The Sector's inclusion audit emphasised the importance of WASH agencies consulting with the refugee community in the design and construction of WASH facilities, particularly latrines and bathing facilities.<sup>56</sup> To understand the reach of these consultations, households were asked if they had had opportunities to give input on the design and construction

<sup>56</sup> Strengthening the humanity in humanitarian action in the work of the WASH sector in the Rohingya response, p. 54.

of latrines and bathing facilities in the six months prior to data collection. Households that reported being consulted were also asked if they felt that their inputs had been taken into account.

Overall, only 21% of households reported being consulted in the design of construction of facilities, including 15% reporting being consulted on the design of bathing facilities, and 14% on the design of latrines. However, out of those reporting being consulted, 79% reported feeling that their views had been taken into account.

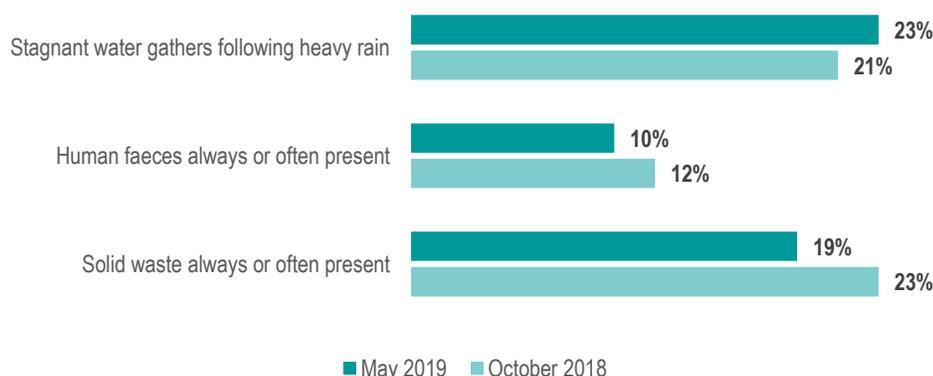
Households in Teknaf reported being consulted on facility design at slightly higher rates than Kutupalong (32% against 20%). Above-average proportions of households reported being consulted and feeling that their views were taken into account for bathing facilities in Camp 26 (53% consulted), Camp 19 (39%), and Camp 8E (37%), while below-average rates were reported in Camp 4 and Camp 4 Extension (8%), and Camp 8W (4%).

## Environmental sanitation

### Environmental sanitation problems

In order to assess potential public health risks posed by environmental sanitation issues, households were asked how frequently they saw solid waste and human faeces in the vicinity (within 30 metres) of their shelter, as well as whether water gathered around their shelter following heavy rain. Overall, findings were largely unchanged between May 2019 and October 2018 (see Figure 11 below).

Figure 11: % of households reporting facing different environmental sanitation problems, May 2019 vs. October 2018



Regarding waste water and drainage issues, around one in four households (23%) reported that heavy rain does gather around the household – consistent with October 2018 (21%). While households in Kutupalong and southern Teknaf reported the occurrence of this issue at similar rates, female respondents (32%) were more likely to report its occurrence compared with males (15%). Households were more likely to report this was the case in Camp 25 (41%), with households far less likely to report it in Camp 12 (5%).

Regarding the presence of human faeces, 4% of households reported seeing faeces “always”, 6% “often”, 40% “sometimes”, and 50% “never.” Households reported seeing children’s faeces “sometimes” or “never” in May 2019 (90%) at a similar rate with October 2018 (88%). No significant differences for this indicator were reported between gender of respondents, between Kutupalong and southern Teknaf, or across camps.

Regarding solid waste, 10% of households reported “always” seeing it, 9% “often”, 46% “sometimes”, and 35% “never” – again, proportions were similar to October 2018. No significant differences for this indicator were reported between gender of respondents, between Kutupalong and southern Teknaf, or across camps.

## Solid waste management

Throughout 2018 and 2019, the Sanitation TWiG has worked with partners to build and implement strategies for minimising disposal of household waste in unsafe areas such as drains, undesignated open areas (i.e. littering or dumping), or simply burying it, aimed at reducing refugees' exposure to hazardous chemicals affecting the waterways and soil. To build a knowledge base around household waste management practices, this survey asked households a series of questions on disposal, separation and burning of domestic waste, as well as frequency of emptying rubbish pits.

### Waste disposal

Overall, 36% of households reported disposing of domestic waste in an undesignated open area, with 22% reporting using shared bins, 15% household pits, 11% drains, 8% household bins, 8% designated open areas, and 2% burying it. No significant differences were reported between Kutupalong and southern Teknaf for this indicator. However, there were substantial variations between camps. Disposing of waste in an undesignated area was most commonly reported in Camp 25 (84%), Camp 23 (72%), and Camp 27 (66%), with this practice least commonly employed in Camp 4 Extension (12%). Otherwise, the use of shared bins was reported at above-average rates in Camp 4 Extension (66%) and Camp 7 (54%), while household pits were most commonly used in Nayapara RC (49%). Due to an error identified in the October 2018 data, comparison between surveys is not possible for this indicator.<sup>57</sup> It should be noted that practices known to be bad by respondents may be under-reported due to social desirability bias. The rates of waste disposal in open areas should therefore be viewed as a lower bound for the prevalence of this practice.

### Separation of waste

Households that reported disposing of waste in household bins, household pits, shared bins, or designated open areas were asked if they separated waste when doing so. Overall, 28% of households reported separating waste (e.g. into plastics, organics, etc.) when disposing of it.<sup>58</sup> The fact that a greater proportion of households reported disposing of domestic waste inside the household compared with designated areas suggests that separation of waste is more likely to take place within households. Rates of households separating waste were similar in Kutupalong and southern Teknaf. The highest rates of households employing this practice were in Camp 4 Extension (62%) and Camp 12 (47%), while the lowest rates were in Camp 25 (3%), Camp 23 (7%), and Camp 27 (9%). Additionally, female respondents were slightly more likely than male respondents to report households separating waste, at 33% and 23% respectively.

### Burning of waste

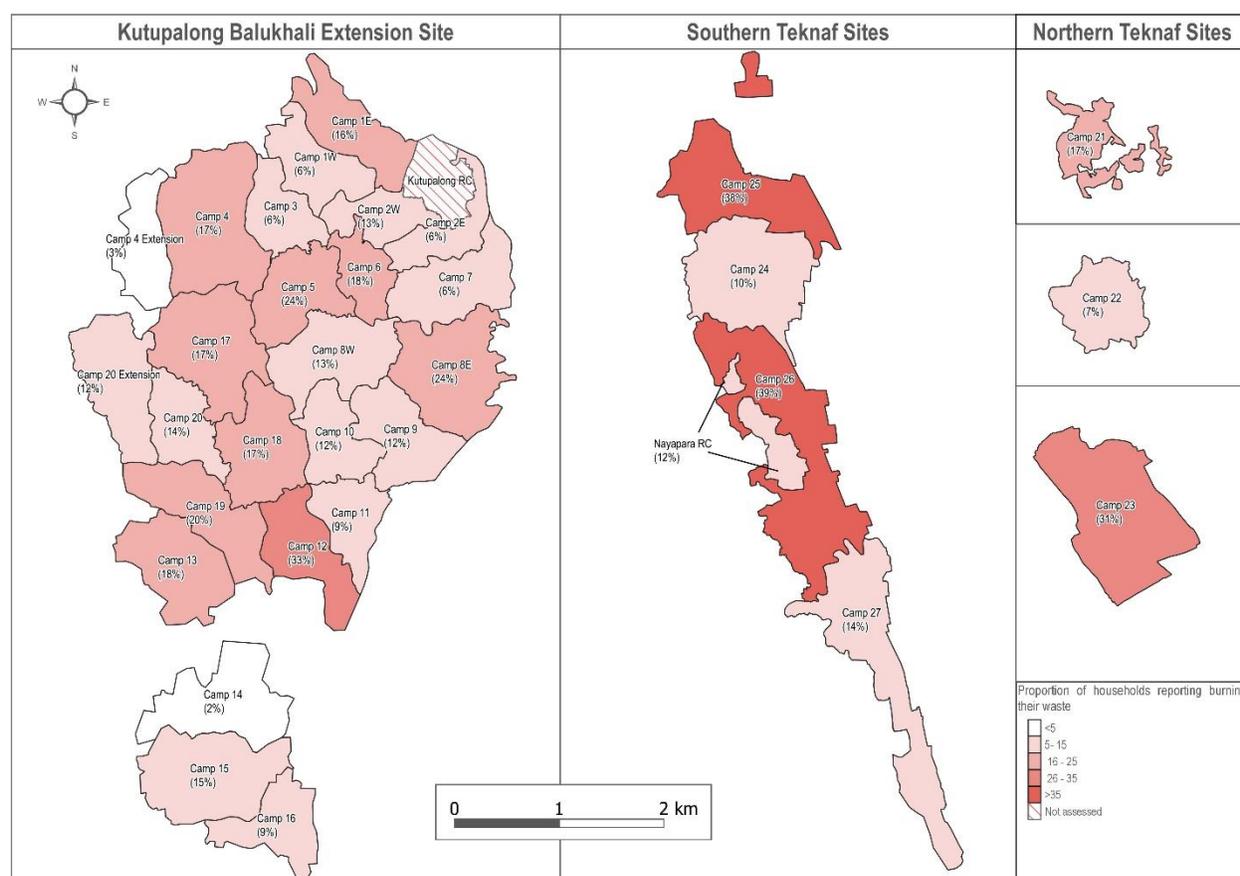
Since the August 2017 influx, the WASH Sector has faced challenges in minimising the burning of waste, to avoid the release of pollutants such as dioxins into the air and soil in the camps. To fill an information gap in this respect, households that reported disposing of domestic waste in household bins, household pits, undesignated open areas, or burying it were asked if they burned it after putting it in these spaces during this survey. Overall, 15% of households reported burning waste,<sup>59</sup> with households slightly more likely to do this in southern Teknaf (22%) compared with Kutupalong (14%). As displayed in Map 5, significant variations were reported across camps, with households most commonly reporting this practice in Camp 26 (39%), Camp 25 (38%), and Camp 12 (33%), while very few households reported burning waste in Camp 14 (2%) and Camp 4 Extension (3%). Female and male respondents reported burning waste at similar rates.

<sup>57</sup> In October 2018, 2% of respondents reported using undesignated open areas. However, since publication of the October 2018 report a translation error for this question was noticed, meaning that data reported for this indicator in October was not valid and cannot be used for comparison with current data.

<sup>58</sup> This question was only asked if households reported disposing of waste in household bins, household pits, shared bins, or designated open areas. In order to show overall prevalence of sorting practices among the population, the denominator for this indicator is all households. The rate of separating waste exclusively among households that reported using household bins, household pits, shared bins, or designated open areas was 53%.

<sup>59</sup> This question was only asked if households reported using household bins, household pits, or undesignated open areas. In order to show overall prevalence of burning waste among the population, the denominator for this indicator is all households. The rate of burning waste exclusively among households that reported using household bins, household pits, or undesignated open areas was 25%.

Map 5: % of households reporting burning waste after disposing of it



### Emptying of rubbish pits

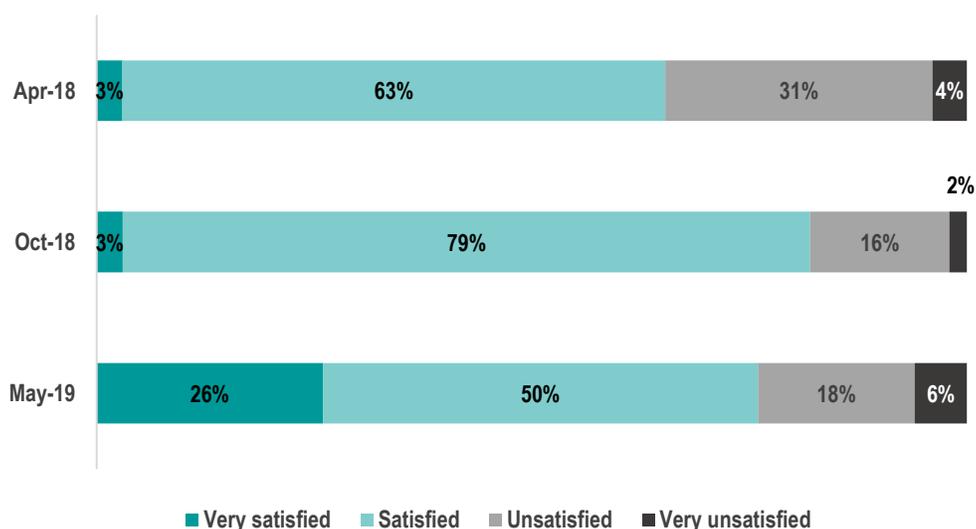
When households reported disposing of waste in household pits, shared bins, or designated open areas, enumerators asked how often these sites are emptied by the responsible organisation. Of these households, 15% reported that sites were emptied daily, with 18% reporting three times per week, 35% once per week, and 25% less than once per week (with the remaining 6% reporting they did not know).<sup>60</sup> Findings suggest that waste emptying cycles occur at similar rates in Kutupalong and southern Teknaf and across camps.

### Satisfaction with solid waste management

As with other key areas of service provision, households were asked about levels of satisfaction with the waste management system around their shelter or block. Across all camps, 26% of households reported being very satisfied, and 50% reported being satisfied with the solid waste management system. The remaining households reported being unsatisfied (18%) or very unsatisfied (6%). As shown in Figure 12, households reported being satisfied or very satisfied at similar rates in October 2018 and May 2019. However, a higher proportion of households reported being very unsatisfied in May 2019. Satisfaction levels were similar in Kutupalong and southern Teknaf, while the lowest rates of satisfaction were reported in Camp 25 (where only 45% of households reported being very satisfied or satisfied), and Camp 27 (55%). Conversely, the highest rates of satisfaction were reported in Camp 4 Extension (where 99% of households reported being very satisfied or satisfied), along with Nayapara RC (94%), Camp 12 (92%), and Camp 11 (91%).

<sup>60</sup> The denominator for this indicator is households that reported disposing of waste in household pits, shared bins, or designated open areas (n=1,537). As a consequence, margin of error and confidence level are insufficient to allow for presentation of findings at camp level for this indicator.

Figure 12: % of households reporting levels of satisfaction with the solid waste management system nearby the household. Comparison: April 2018- May 2019



## Hygiene

This sub-section begins with an overview of diarrhoea prevalence as reported by assessed households, before presenting data on soap possession and handwashing findings, and data relating to menstrual hygiene management. It concludes by presenting data on hygiene promotion activities. Overall, data from the current survey are broadly similar to data from October 2018, with the key exception of higher reported prevalence of diarrhoea. This is demonstrated by comparable rates of household soap possession and respondents' ability to identify critical handwashing times. Women reported facing problems accessing menstrual hygiene materials to a slightly lesser extent than October 2018, with fewer women also indicating that preferred types of materials are unavailable. As with October, reported participation in hygiene activities varied widely based on type of activity and across camps.

## Diarrhoea

Overall, 26% of households reported at least one individual having diarrhoea in the two weeks prior to data collection, up from 15% in October 2018. Households in Kutupalong (27%) were slightly more likely to report a household member having diarrhoea compared with southern Teknaf (20%). Above-average proportions of households reported this was the case in Camp 4 (47%) and Camp 4 Extension (38%), while the lowest proportion was reported in Camp 8E (12%). Seven per cent (7%) of all individuals were reported as having diarrhoea, up from 3% in October 2018. Children under 5 (11%) and people aged 60 and over (15%) were reported as having diarrhoea at higher rates than adults aged 18-59 (6%), adolescents aged 12-17 (3%), and children aged 5-11 (5%). No significant differences according to gender were observed. Individuals aged over 5 with disabilities were significantly more likely (17%) to be reported as having diarrhoea compared to individuals aged over 5 without disabilities (7%).

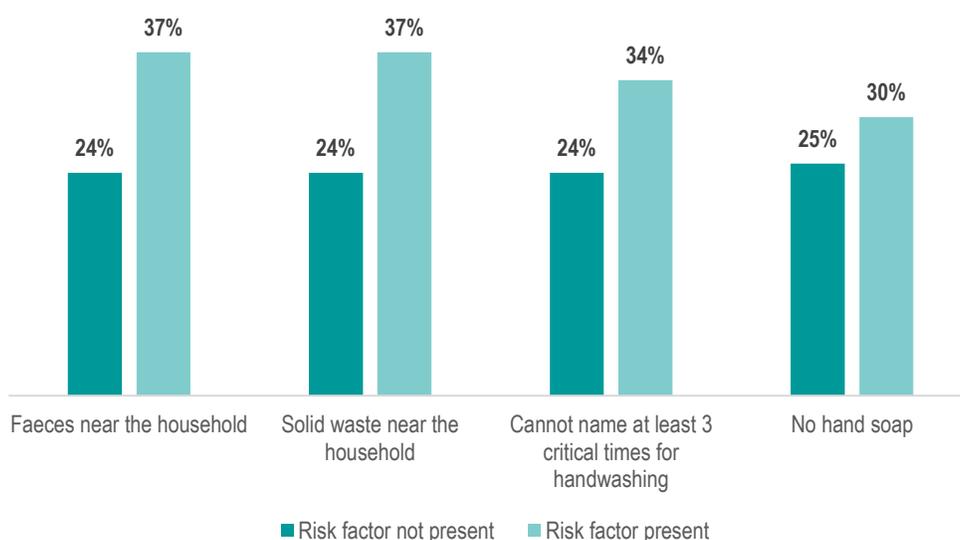
Respondents were asked if anything had been done to treat the symptoms of individuals that were reported as having diarrhoea in the two weeks prior to data collection. The most common treatment methods were using oral rehydration (reported for 80% of all individuals with diarrhoea), followed by taking medicine (63%), and going to a health facility (23%).<sup>61</sup> Otherwise, 3% reporting doing nothing, while less than 2% combined reported praying, going to the pharmacy, or visiting a healer. For children under 5 in particular as the group most vulnerable to the negative impacts of diarrhoeal

<sup>61</sup> The denominator for this indicator is households that reported at least one individual having diarrhoea in the two weeks prior to data collection (n=922). As a consequence, margin of error and confidence level are insufficient to allow for presentation of findings at camp level for this indicator. Respondents could select multiple options.

disease, 77% of those reported as having diarrhoea were reported as being treated with oral rehydration, with 24% taken to health centres.

In order to better understand potential causes of diarrhoea among refugees, household and individual-level diarrhoea incidence was tested against a number of potential risk factors. As demonstrated in Figure 13, significant relationships were observed between at least one member of a household having diarrhoea and reported presence of faeces near the household; reported presence of solid waste near the household; respondents not being able to name at least three critical handwashing times; and no hand soap reported in the household.<sup>62</sup> No significant relationships were found between household diarrhoea incidence and households with uncovered or unclean water storage containers, or by frequency of washing household water containers. Further, no significant relationships were found between individual diarrhoea incidence and individual defecation or bathing practices. It is important to note that significant relationships do not directly imply a causal link between risk factors and household diarrhoea incidence, only that they are more likely to co-occur in the same households.

Figure 13: % of households in which at least one member was reported as having diarrhoea, disaggregated against key risk factors



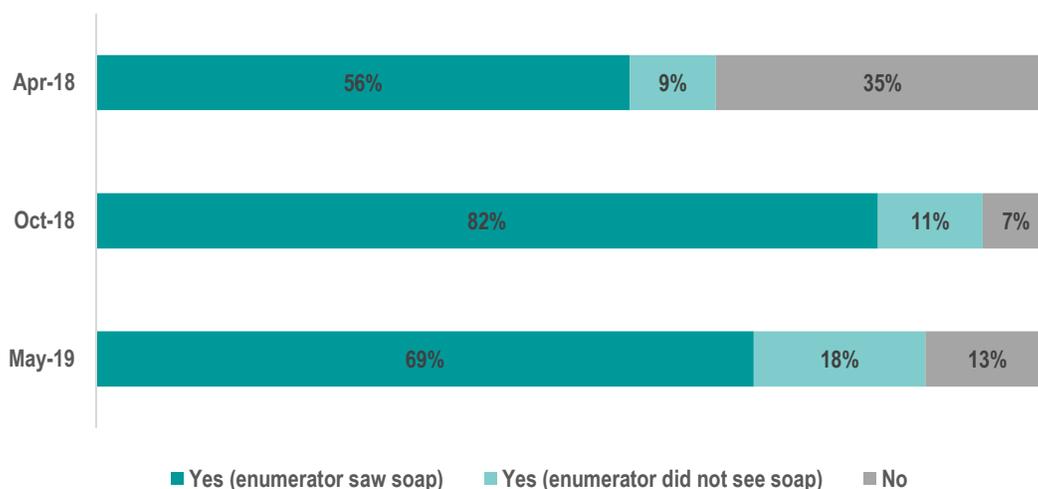
## Soap and handwashing

### Soap possession

The provision of handwashing soap households is critical in reducing risks of disease transmission across the camps. To determine soap coverage, enumerators asked respondents if they had soap for handwashing, and asked to see the soap. As shown in Figure 14, hold soap possession rose significantly between April 2018 (65%) and October 2018 (93%), and remained around the same in May 2019 (87%). However, fewer households presented soap to enumerators in May 2019 (69%) compared with October 2018 (82%). As with October 2018, no significant differences in soap possession were reported between Kutupalong and southern Teknaf or across camps.

<sup>62</sup> All results are significant with  $p < 0.05$ , with handwashing significant at  $p < 0.01$ .

Figure 14: % of households reporting possession of soap, April 2018-October 2019



In the current survey, households not possessing soap were asked to explain why. By far, the most commonly reported reason for not possessing soap was due to the household running out, reported by 92% of households not possessing soap. Otherwise, 18% of households not possessing soap reported this was due to it being too expensive. Response rates for reasons for not possessing soap did not vary significantly between Kutupalong and southern Teknaf or across camps.<sup>63</sup>

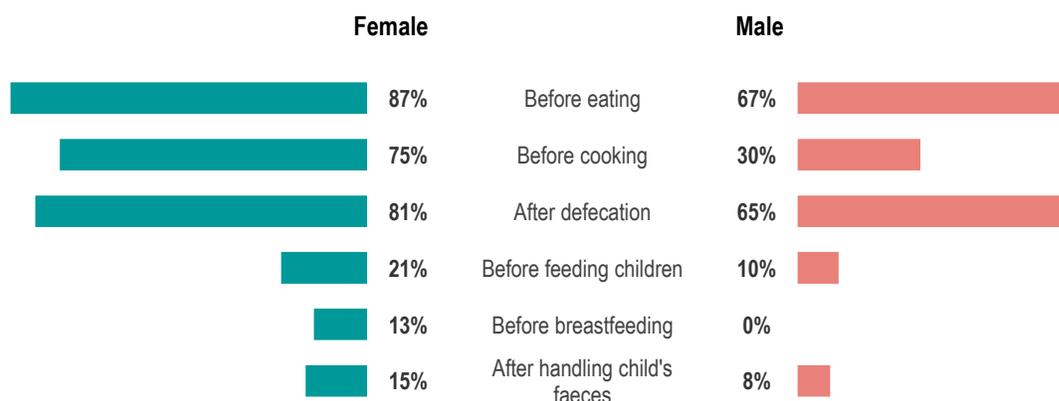
## Handwashing

Along with information on soap possession, understanding refugees' handwashing practices is critical in informing handwashing activities, a response activity that aims to minimise the spread of contaminants across the response. Questions in this assessment focused on both handwashing practice and knowledge.

First, respondents were asked if they washed their hands with soap the day prior to data collection. Overall, 82% of respondents reported washing their hands with soap – with female respondents (93%) substantially more likely to do so than male respondents (73%). No significant differences were reported across camps or between Kutupalong and southern Teknaf. Data on reported handwashing at critical times broken down by gender are provided in Figure 14 below. It should be noted that a small proportion of males reported washing their hands after breastfeeding. These values were removed during data cleaning and this issue suggests that at least some respondents misinterpreted the question as referring to household members in general rather than themselves.

<sup>63</sup> These data are complemented by findings from a parallel REACH assessment focusing on hygiene item distributions conducted in June 2019. This assessment reported that while almost all households reported receiving soap in distributions, only 58% reported receiving soap in sufficient quantities. See REACH Initiative. Hygiene Item Assessment. Cox's Bazar, July 2019. <https://bit.ly/2mjzE0Q> (accessed 16 September 2019).

Figure 13: % of respondents reporting washing hands with soap at critical times in the day prior to data collection, by gender



Following the question on handwashing practices, respondents' knowledge was tested by asking them to name the most important times when someone should wash their hands. Overall, 77% of respondents were able to name at least three critical handwashing times (up from 46% in October 2018).<sup>64</sup> No significant differences were reported between Kutupalong and southern Teknaf or between camps in terms of identifying three critical handwashing times. As shown in Figure 15, the rates at which respondents identified different handwashing times varied significantly by gender. Overall, females were more likely to be able to identify at least three critical times compared to males, with no significant differences by age. All individuals were less likely to identify practices associated with children as critical times—especially elderly respondents—and, as with October 2018, males were more likely to highlight breastfeeding as a critical time than females.<sup>65</sup>

Figure 14: % of respondents identifying reporting awareness of different handwashing times, by age and gender<sup>66</sup>

Handwashing times	Females		Males	
	60+	18-59	60+	18-59
<b>At least 3 critical times</b>	<b>88%</b>	<b>91%</b>	<b>63%</b>	<b>65%</b>
Before eating	97%	96%	94%	93%
Before cooking	89%	88%	61%	61%
After defecation	92%	90%	90%	89%
Before feeding children	27%	37%	23%	32%
Before breastfeeding	13%	18%	19%	26%
After handling child's faeces	9%	28%	15%	28%
Before prayer	50%	48%	58%	47%
Other				
When hands feel dirty	22%	30%	43%	42%
When hands look dirty	26%	36%	62%	62%

<sup>64</sup> Global WASH Cluster standard: the six critical times when people should wash their hands are (1) before eating, (2) before cooking, (3) after defecation, (4) before breastfeeding, (5) before feeding children, (6) after handling a child's stool/changing a child's nappy/cleaning a child's bottom. See: <https://bit.ly/2ACcRCf> (accessed 17 September 2019).

<sup>65</sup> Respondents could select more than one option.

<sup>66</sup> Of the 3,627 respondents that participated in the WASH household survey, 178 were females that were 60 and above, and 183 were males that were 60 and above. Therefore, data related to these two groups are indicative only.

## Menstrual hygiene management

In 2019 the WASH Sector's HP TWiG has focused on strengthening menstrual hygiene support activities across the response. This has involved building a stronger understanding of women's existing practices as well as preferences, aimed at standardising programming to ensure that women live with dignity in the camps. To support these efforts, female respondents in this survey were asked a series of questions regarding their needs and preferences for menstrual hygiene management. Overall, 1,687 female respondents were interviewed, of whom 1,193 consented to participate in the menstrual hygiene section of the questionnaire.<sup>67</sup> The smaller number of responses means findings cannot be reported at camp level; with minimal differences observed between Kutupalong and southern Teknaf, findings for this section are therefore presented at response-level only.

### Menstrual hygiene material availability and accessibility

Women were first asked what types of menstrual hygiene materials they normally used, with respondents able to pick multiple options. Overall, the most commonly reported type of material was reusable pads (reported by 52% of women), followed by reusable period underwear (46%), piece of cloth (28%), and disposable pads (22%). In a large majority of cases, women reported using a mixture of different materials.<sup>68</sup> Rates of use were similar in both Kutupalong and Teknaf. Reusable and disposable pads were reported at similar rates compared to October 2018, while the use of pieces of cloth fell significantly from 41% to 28%.

On the question of where menstrual hygiene materials are normally accessed, 93% of women reported being provided them in a distribution, 6% reported purchasing them in the market, with the remaining 1% indicating they would prefer not to say.<sup>69</sup> However, only 21% of respondents reported receiving any menstrual hygiene materials as part of a distribution in the thirty days prior to data collection. This aligns with findings from REACH's Menstrual Hygiene Item assessment that was implemented in July 2019, in which 26% of women reported receiving menstrual hygiene items in a distribution in the month prior to data collection.<sup>70</sup>

Women were also asked if they faced problems with accessing menstrual hygiene materials. Overall, 13% of women reported facing problems (down from 31% in October 2018). The most common problem with accessing materials related to insufficient quantities being provided in distributions (reported by 10% of women, consistent with 12% reported in October 2018). In October 2018, around a quarter of women (23%) reported that preferred types are unavailable – however only 1% reported this was the case in the current study, suggesting distributions of menstrual hygiene materials better align with women's preferences this year. Other problems such as materials being too expensive and other needs being prioritised were all reported by fewer than 2% of respondents.

### Sanitation practices associated with menstrual hygiene materials

Women that reported using disposable pads were asked where they disposed of them. Overall, the most commonly reported space for disposing of disposable pads was in the ground (burying it) (39%), followed by in a latrine (23%), household bin (13%), household pit (8%), shared bin (7%), designated open area (4%), drain (3%), and undesignated open area (3%).<sup>71</sup>

Women that reported using reusable pads, pieces of cloth, or reusable period underwear were asked if they normally wash and dry these materials, with separate questions on the spaces where they complete these tasks. Overall, 90% of women reported washing and drying these materials. As displayed in Figure 16, the most common space where

<sup>67</sup> Of the remaining 494 women that did not provide answers for this section, 400 reported that they did not menstruate anymore, and 94 did not provide consent to participate (with no reason provided).

<sup>68</sup> The option "reusable period underwear" was not included in the April 2018 and October 2018 surveys. Therefore, only data from May 2019 is presented.

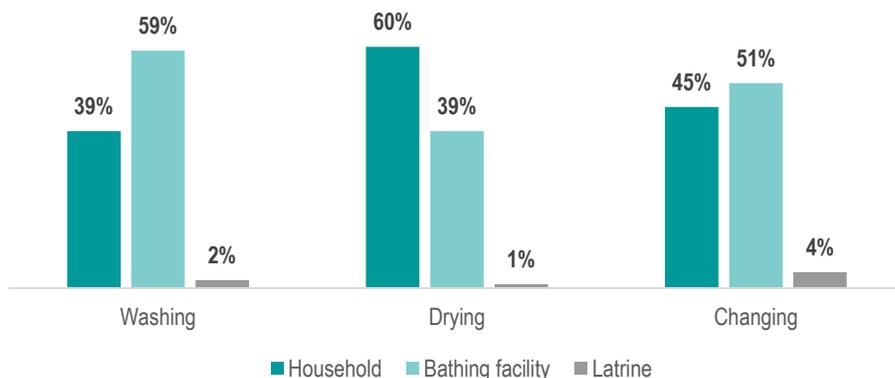
<sup>69</sup> In October 2018, 15% of women reported that materials were "provided in a kit distribution", with 82% reporting that "someone else provided them.". However, since publication of the October 2018 report a translation error for this question was noticed, meaning that data reported for this indicator in October was not valid and cannot be used for comparison with current data.

<sup>70</sup> The remaining women reported receiving items in a distribution in the last week (6%), in the last three months (44%), in the last six months (16%), and more than six months ago (9%).

<sup>71</sup> The denominator for this indicator is women that reported using disposable pads (n=259).

women reported washing materials was inside bathing facilities (59%), followed by inside the household (39%). Separately, women most commonly reported drying materials inside the household (60%), with a substantial minority also reporting doing so inside bathing facilities (39%). Women reported drying materials inside bathing facilities and inside the household at similar rates (at 60% and 39% respectively).<sup>72</sup> On the question of where women change any types of materials, 51% reported they do this inside the bathing facility, 45% inside the shelter, and 4% reported inside the latrine. Women were also asked if they faced any difficulties in using a latrine whilst menstruating. Overall, only 4% of women reported this was the case, with no significant differences across camps or between Kutupalong and southern Teknaf.

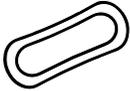
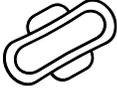
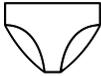
Figure 15: Of women reporting using reusable menstrual hygiene materials, % reporting washing, drying, and changing materials in different spaces<sup>73</sup>



### Preferences and satisfaction

Women were then asked what types of menstrual hygiene materials they would prefer to use. Overall, reusable period underwear was the most commonly reported preferred material (reported by 34% of women), followed by reusable pads (27%), disposable pads (18%), and piece of cloth (14%) (see Table 9 below **Error! Reference source not found.**). Around one in four women (24%) reported no preference for materials other than the ones they were using. No significant differences between Kutupalong and southern Teknaf were observed.

Table 9: % of women reporting use of and preference for different menstrual hygiene materials<sup>74</sup>

Type of menstrual hygiene material	Reusable pad	Disposable pad	Reusable period underwear	Piece of cloth
				
Being used	52%	22%	46%	28%
Not being used, but preferred	27%	18%	34%	14%

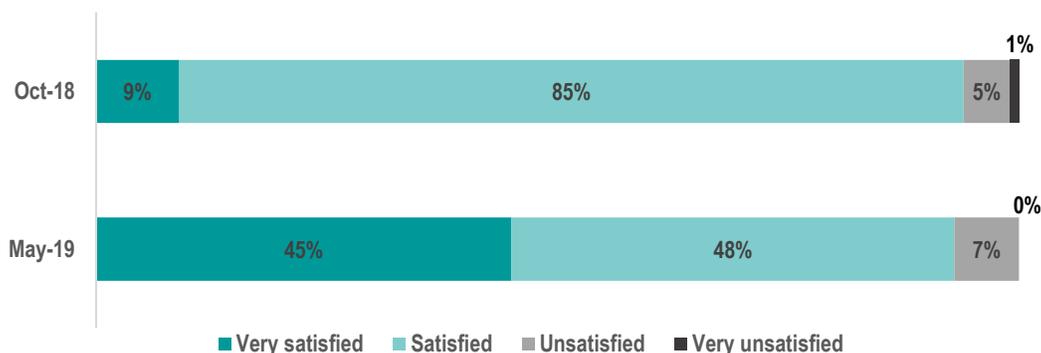
<sup>72</sup> The choices included for questions on washing, drying, and changing menstrual hygiene materials did not capture adequate information to understand the different spaces in which women complete these tasks. In future surveys, the questionnaire will be amended to account for the different types of facilities that women may be completing these tasks, to clarify the difference between “inside the household” and “inside the bathing facility.”

<sup>73</sup> The denominator for this indicator is women that reported using reusable pads, pieces of cloth, or reusable period underwear, that reported washing or drying these materials (n=944).

<sup>74</sup> Respondents could select more than one option.

Concluding this section of the questionnaire, women were asked how satisfied they are with access to menstrual hygiene materials. Overall, 45% reported being very satisfied, 48% satisfied, 7% unsatisfied, and 0% very unsatisfied. Consistent with other satisfaction findings resulting from this survey, rates of women being very satisfied or satisfied with access to menstrual hygiene materials were similar in May 2019 and October 2018 - however a significantly higher proportion of women reported being very satisfied in May 2019.

Figure 16: % of women reporting levels of satisfaction with access to menstrual hygiene materials, May 2019 vs. October 2018



### Hygiene promotion activities

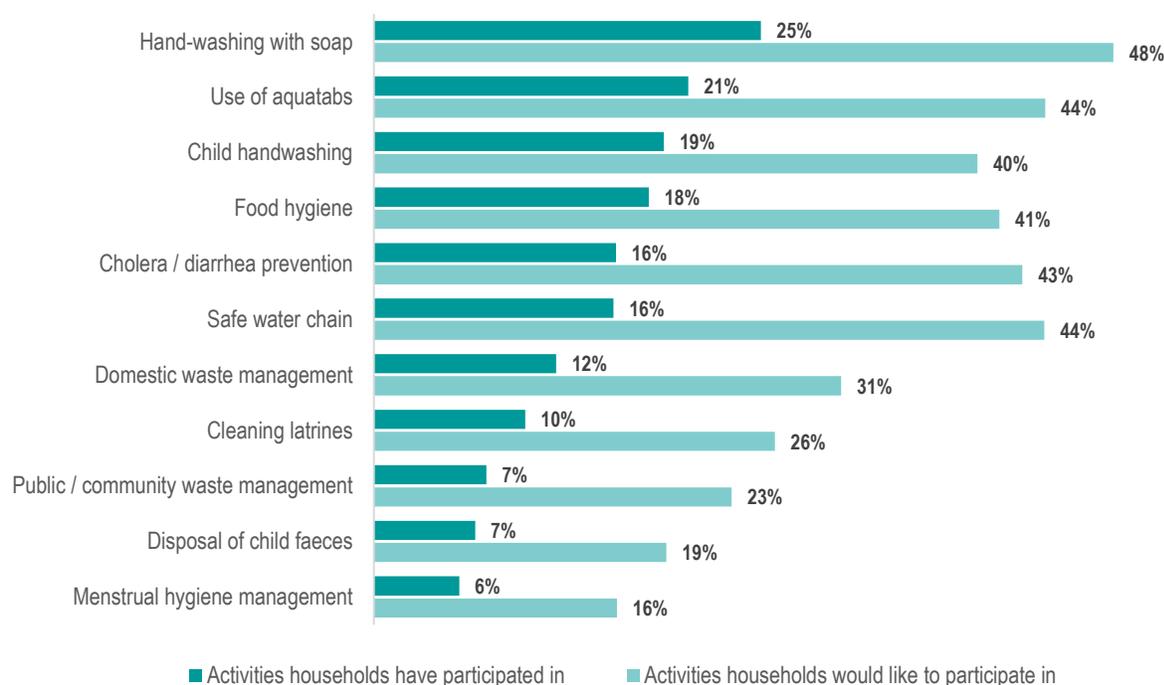
Respondents were asked if anyone from the household had participated in any hygiene activities in two weeks prior to data collection. This represents a slight revision from October 2018, in which respondents were asked if they had participated in any hygiene training or demonstrations in the two weeks prior to data collection. Comparisons of data for these indicators should therefore be observed keeping in mind the differences in question phrasing between the two assessments.

Overall, 39% of households reported participating in hygiene activities in the two weeks prior to data collection (down from 53% in October 2018). Participation rates did not vary between Kutupalong and southern Teknaf – and unlike October 2018, when males reported higher participation rates compared with females, no differences were reported to the gender of respondent. Above-average participation rates were recorded in Camp 2E (with 57% of households reporting participation), Camp 10 (56%), and Camp 1W (54%), with below average participation rates reported in Camp 20 (25%). The most common activities that households participated in included handwashing with soap (reported by 25% of households), followed by use of aquatabs (21%), and child handwashing (19%). Male respondents were more likely (19%) to have participated in activities related to safe water chain compared to females (11%), with the reverse being true for menstrual hygiene management (9% females against 3% males).

Enumerators also asked households if they would like to participate in more hygiene activities. Overall, 78% of households reported wanting to participate in more hygiene activities (up from 58% in October 2018). Households reported wanting to participate in hygiene activities at similar rates in Kutupalong and southern Teknaf, and below-average rates in Camp 14 (59%) and Camp 16 (62%). Consistent with findings from October 2018, male respondents (86%) were more likely to express a willingness to participate in hygiene activities compared with female respondents (68%). Overall, the activities households most commonly reported participating in were also the activities households most commonly wanted to participate in (see Figure 18). There were significant gender variations in the types of activities respondents would like to participate in. Out of respondents who reported that they would like to participate in more activities, males generally wanted to participate in a wider range of different activities, and reported twice the rate of interest compared to women in community waste management (30% vs. 16%), cholera and diarrhoea prevention

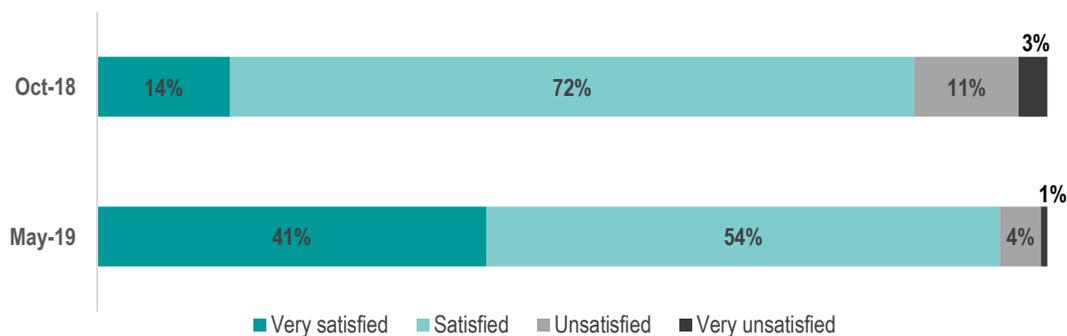
(66% vs. 38%), and cleaning latrines (40% vs. 24%). By contrast, females respondents were more likely than males to report interest in hand-washing with soap (70% vs. 57%), and menstrual hygiene management (26% vs. 17%).<sup>75</sup>

Figure 17: % of households reporting different hygiene activities that they have participated in and would like to participate in<sup>76</sup>



Overall, 41% of households reported being very satisfied with access to hygiene activities and information, with 54% satisfied, 4% unsatisfied, and 1% very unsatisfied. Rates of households reporting being very satisfied were considerably higher in October 2018 (41%) compared with October 2018 (14%), as shown in Figure 19.<sup>77</sup> Levels of satisfaction did not vary according to gender of respondent, between Kutupalong and southern Teknaf, or across camps.

Figure 18: % of households reporting satisfaction levels with access to hygiene activities and information, May 2019 vs. October 2018



<sup>75</sup> The denominator for this indicator is respondents that reported an interest in participating in more hygiene activities (n=1,126 females and 1,672 males).

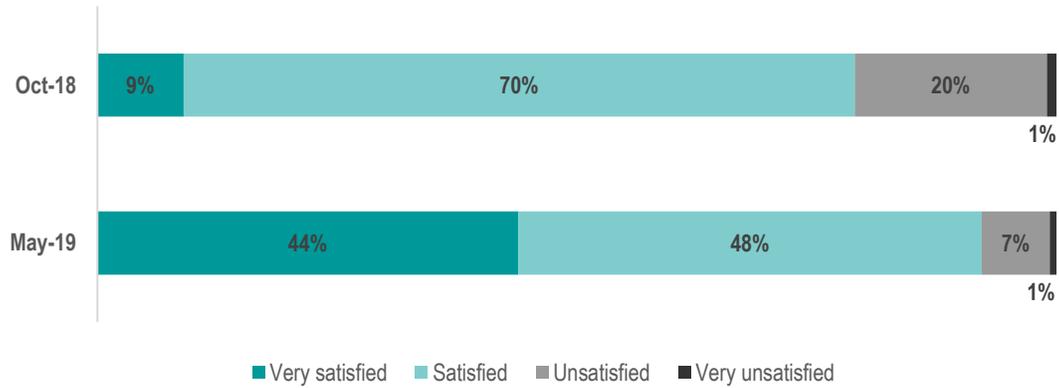
<sup>76</sup> Respondents could select more than one option for both questions. The denominators for each question are households that reported taking part in hygiene activities (n=1,409) and households that reported wanting to take part in further hygiene activities (n=2,798).

<sup>77</sup> As with questions on participation in hygiene activities, the question on satisfaction with access to hygiene training and demonstrations in October 2018 was revised in this May 2019 survey, with respondents instead asked about their levels of satisfaction with access to hygiene activities and information. October 2018 and May 2019 data are thus not directly comparable as data points but nevertheless presented to allow for trend analysis.

## Overall satisfaction

The final question in the survey asked about households' level of satisfaction with WASH conditions. Overall, 44% of households said they were very satisfied, 48% satisfied, 7% unsatisfied, and 1% very unsatisfied. There was no major difference between camps, or between gender of respondents. As with other questions on satisfaction for this study, this represents a substantial increase in the proportion of respondents reporting being "very satisfied" and a decrease in the proportion of respondents reporting being "unsatisfied" compared to October 2018.

Figure 20: % of households reporting overall satisfaction levels with WASH across the camps, May 2019 vs. October 2018



## CONCLUSION

This survey represents the third response monitoring assessment carried out on behalf of the Cox's Bazar WASH sector to understand how household-level WASH conditions are evolving as the response progresses. Comparative analysis across the three assessments suggests that while WASH conditions and perceptions improved between April and October 2018, they remained relatively unchanged between October 2018 and May 2019. This implies that while achievements in the initial year of the response have been sustained, more focused attention will be required to address the outstanding challenges that remain.

For water in particular, this assessment demonstrates that as of the 2019 dry season, many households in southern Teknaf in particular continue to collect inadequate amounts of water for domestic consumption, face long waiting times at sources, and in a few areas continue to rely on unsafe sources. At the same time, coverage by improved water sources remains near-universal, household water storage capacity has increased overall compared to October, and, despite dry season conditions, more households are collecting water in sufficient volumes (15 litres/person/day) for domestic uses.

For sanitation, large numbers of individuals continue to face problems accessing latrines and bathing facilities, while high rates of households burning domestic waste in some camps also warrants attention. At the same time, more individuals are relying on higher-quality communal latrines, and rates of open defecation among infants have fallen slightly.

In terms of hygiene, participation in hygiene training has dropped compared to October and just over one in ten households still do not have access to soap—even as knowledge of critical handwashing times has improved significantly. Across all domains, vulnerable groups such as elderly people and those living with disabilities continue to face disproportionate challenges to accessing key services. Critically, diarrhoea prevalence also increased substantially, implying that despite improvements many households remain vulnerable to the risk of water and vector-borne disease.

Since the August 2017 influx, WASH Sector partners including REACH have produced a substantial amount of information on the conditions, perceptions, and needs of the Rohingya refugees residing in the camps. In order to increase the efficiency of response monitoring, minimise burdens on affected populations, and focus more specifically on outstanding data gaps, the following steps for future assessments are proposed.

To improve efficiency of response monitoring:

- Ensure that harmonised indicators, question phrasing and translations are used by the WASH sector and its partners to monitor key indicators across the humanitarian programme cycle, to better ensure interoperability of data and expand the scope for joint assessments among WASH partners.
- Focus on a smaller number of core indicators to monitor the status of WASH-related living standards over time.
- Review the frequency at which different data are required—for example, how often are updates on camp-level data needed against response-level data.

To address continuing data gaps:

- Design and implement targeted thematic assessments in response to specific identified data gaps at the strategic and operational level. These could include (but are not limited to):
  - Develop an alert system within southern Teknaf camps, to inform decisions around emergency water interventions (i.e. water trucking) during the dry season.
  - Produce quantitative and qualitative data specifically focused on strengthening the knowledge base around the most vulnerable people's needs – and inform targeted programming to address them.

## Annex 1: Links to key assessment documentation

[Terms of reference and data analysis plan](#)

[Clean dataset and Kobo tool \(including Rohingya translations\)](#)

## Annex 2: List of Assessed Camps

Area	Camp	# Families (April 2019) <sup>78</sup>	Sample
Kutupalong	Camp 1E	7,652	96
	Camp 1W	7,127	110
	Camp 2E	5,276	106
	Camp 2W	9,800	116
	Camp 3	7,049	105
	Camp 4	11,184	109
	Camp 4 Extension	4,880	99
	Camp 5	4,020	99
	Camp 6	6,540	105
	Camp 7	4,826	107
	Camp 8E	9,329	114
	Camp 8W	9,470	99
	Camp 9	1,794	101
	Camp 10	1,119	114
	Camp 11	3,017	108
	Camp 12	4,587	110
	Camp 13	2,661	105
	Camp 14	7,760	116
	Camp 15	2,143	111
	Camp 16	9,393	97
Camp 17	3,150	103	
Camp 18	7,292	106	
Camp 19	5,965	109	
Camp 20	9,197	105	
Camp 20 Extension	7,948	106	
Central Teknaf	Camp 21	1,495	109
	Camp 22	6,047	106
	Camp 23	5,826	217
Southern Teknaf	Camp 24	9,411	113
	Camp 25	7,208	104
	Camp 26	7,465	108
	Camp 27	8,682	95
	Nayapara RC	5,709	120
	<b>Total</b>	<b>205,022</b>	<b>3,628</b>

<sup>78</sup> UNHCR. Population data and key demographical indicator, 15 March 2019. <https://bit.ly/2krKrrpg> (accessed 10 September 2019).

## Annex 3: Water Access Problems Data Table

% of households reporting facing different types of problems accessing water

	% relying on unimproved water sources for drinking	% reporting facing problems accessing water	% reporting that the water source is too far	% reporting long wait times at the water source	% reporting that the path to the water source is too steep	% reporting not accessing sufficient drinking water in preceding week
Camp 1E	0%	42%	28%	25%	9%	3%
Camp 1W	0%	28%	25%	22%	7%	5%
Camp 2E	0%	51%	33%	21%	14%	2%
Camp 2W	0%	33%	21%	23%	10%	8%
Camp 3	0%	33%	21%	21%	13%	5%
Camp 4	0%	53%	39%	28%	25%	5%
Camp 4E	0%	41%	15%	30%	0%	6%
Camp 5	0%	53%	36%	30%	22%	6%
Camp 6	0%	46%	38%	27%	21%	7%
Camp 7	0%	36%	19%	21%	13%	7%
Camp 8E	0%	37%	26%	24%	18%	2%
Camp 8W	0%	66%	53%	32%	42%	1%
Camp 9	0%	49%	31%	23%	19%	3%
Camp 10	0%	32%	25%	25%	15%	3%
Camp 11	0%	40%	24%	26%	12%	9%
Camp 12	0%	30%	26%	16%	18%	0%
Camp 13	0%	24%	18%	13%	10%	1%
Camp 14	0%	47%	39%	37%	33%	2%
Camp 15	0%	53%	45%	41%	26%	3%
Camp 16	0%	47%	34%	30%	27%	2%
Camp 17	0%	41%	26%	19%	18%	7%
Camp 18	0%	36%	29%	17%	8%	7%
Camp 19	0%	40%	30%	22%	14%	2%
Camp 20	0%	46%	31%	13%	19%	7%
Camp 20E	3%	46%	28%	21%	10%	5%
Camp 21	0%	28%	19%	16%	19%	1%
Camp 22	1%	72%	58%	68%	29%	17%
Camp 23	0%	18%	9%	6%	0%	2%
Camp 24	4%	60%	26%	53%	2%	23%
Camp 25	0%	57%	35%	47%	4%	10%
Camp 26	1%	34%	20%	25%	6%	12%
Camp 27	14%	62%	44%	38%	7%	24%
Nayapara RC	0%	52%	25%	39%	3%	22%
<b>Overall</b>	<b>1%</b>	<b>43%</b>	<b>30%</b>	<b>28%</b>	<b>16%</b>	<b>6%</b>

## Annex 4: Hygiene Activity Participation Data Table

% of households reporting different hygiene activities that they have participated in, by camp

	Hand-washing with soap	Child hand-washing	Use of aquatabs	Safe water chain	Food hygiene	Domestic waste management	Cleaning latrines	Cholera / diarrhea prevention	Disposal of child faeces	Menstrual hygiene management
Camp 1E	30%	22%	24%	25%	15%	14%	15%	18%	9%	6%
Camp 1W	30%	12%	33%	24%	11%	18%	7%	28%	5%	1%
Camp 2E	35%	27%	40%	25%	22%	23%	23%	25%	6%	9%
Camp 2W	28%	16%	28%	23%	15%	11%	9%	20%	8%	9%
Camp 3	17%	12%	8%	10%	9%	4%	7%	8%	5%	3%
Camp 4	20%	22%	18%	12%	22%	10%	13%	16%	2%	3%
Camp 4E	25%	20%	12%	15%	17%	5%	10%	6%	8%	8%
Camp 5	25%	15%	12%	15%	27%	6%	13%	14%	5%	10%
Camp 6	31%	23%	19%	12%	20%	13%	10%	13%	17%	10%
Camp 7	26%	16%	9%	9%	14%	5%	9%	9%	3%	8%
Camp 8E	25%	18%	18%	15%	18%	9%	3%	18%	4%	10%
Camp 8W	18%	15%	21%	15%	23%	4%	11%	5%	6%	5%
Camp 9	21%	14%	11%	9%	16%	11%	12%	7%	10%	6%
Camp 10	30%	20%	28%	25%	24%	18%	10%	24%	9%	4%
Camp 11	24%	20%	10%	9%	16%	7%	6%	14%	6%	6%
Camp 12	25%	20%	26%	14%	25%	13%	8%	17%	4%	8%
Camp 13	23%	12%	26%	18%	17%	25%	6%	20%	4%	0%
Camp 14	16%	19%	22%	14%	12%	9%	9%	16%	6%	2%
Camp 15	28%	18%	21%	9%	14%	9%	10%	8%	5%	6%
Camp 16	24%	20%	22%	15%	15%	18%	7%	11%	9%	8%
Camp 17	28%	20%	9%	9%	19%	13%	17%	17%	10%	9%
Camp 18	23%	25%	11%	9%	18%	15%	12%	25%	9%	5%
Camp 19	23%	17%	20%	14%	24%	9%	6%	20%	3%	4%
Camp 20	31%	24%	18%	19%	24%	14%	15%	17%	10%	5%
Camp 20E	25%	16%	26%	22%	15%	15%	14%	28%	6%	5%
Camp 21	27%	23%	22%	19%	24%	15%	8%	16%	7%	6%
Camp 22	30%	27%	33%	19%	19%	18%	22%	16%	9%	4%
Camp 23	21%	19%	14%	12%	17%	11%	7%	15%	6%	6%
Camp 24	27%	21%	20%	21%	18%	6%	7%	17%	6%	4%
Camp 25	27%	31%	16%	13%	26%	15%	9%	6%	13%	9%
Camp 26	21%	21%	29%	17%	18%	8%	3%	17%	5%	3%
Camp 27	31%	29%	20%	23%	24%	12%	19%	20%	12%	5%
Nayapara RC	33%	23%	23%	15%	28%	19%	8%	17%	13%	12%
<b>Overall</b>	<b>25%</b>	<b>19%</b>	<b>21%</b>	<b>16%</b>	<b>18%</b>	<b>12%</b>	<b>10%</b>	<b>16%</b>	<b>7%</b>	<b>6%</b>