CARE BANGLADESH

Provision of life-saving WASH services for Rohingya Refugees in Bagghona/Potibonia (Camp 16), Ukhiya Upazila, Cox’s Bazar District

Funded by UNICEF

END LINE SURVEY REPORT

Report by: MEAL & WASH teams, CARE Bangladesh, Cox’s Bazaar Field Office

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DISCALIMER
The author's views expressed in this publication do not necessarily reflect the views of UNICEF.
Acknowledgement

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The author recalls all the concerned CiC for his approval to access the camp and administrative support provided during data collection period.

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MEAL Coordinator
March 2020
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<th>Description</th>
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<tbody>
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<td>CiC</td>
<td>Camp in Charge</td>
</tr>
<tr>
<td>FGD</td>
<td>Focused Group Discussion</td>
</tr>
<tr>
<td>IEC</td>
<td>Information Education and Communication</td>
</tr>
<tr>
<td>KAP</td>
<td>Knowledge Attitude and Practice</td>
</tr>
<tr>
<td>MEAL</td>
<td>Monitoring Evaluation and Learning</td>
</tr>
<tr>
<td>MHM</td>
<td>Menstrual Hygiene Management</td>
</tr>
<tr>
<td>MTR</td>
<td>Midterm Report</td>
</tr>
<tr>
<td>REACH</td>
<td>Leading humanitarian initiative providing granular data, timely information and in-depth analysis from contexts of crisis, disaster and displacement</td>
</tr>
<tr>
<td>UNHCR</td>
<td>United Nations High Commissioner for Refugees</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children’s Emergency Fund</td>
</tr>
<tr>
<td>WASH</td>
<td>Water Sanitation and Hygiene</td>
</tr>
<tr>
<td><strong>WASH sector</strong></td>
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Executive summary

Provision of life-saving WASH services to the Rohingya refugee and host population project for Ukhiya Upazila, Cox’s Bazar district was implemented in Moynarghona (camp 16) by CARE Bangladesh with funding from UNICEF for twelve (12) months (February, 2019 to February, 2020). The goal of the project was to improve the quality of integrated WASH service delivery to support the well-being of children under 5 years, women, girls, men, boys the elderly and persons with disability in emergency situation. The project targeted 21,883 refugees (52% women and 48% men) with water, sanitation and hygiene promotion interventions.

CARE conducted the midterm assessment in February 2020. The survey involved both quantitative and qualitative data collection tools and approaches. The samples were drawn systematically, with the sample size determined following most common statistical formula. A total of 300 respondent/households from camp 16 participated and the data collection. The questionnaires were uploaded in tablets with KoBo data collection application for accuracy and timeliness.

The objectives of the study are as follows:

- To understand water access situation for the beneficiary households in the camp 16.
- To know the sanitation status and use by households in the camp 16.
- To identify current Knowledge, Attitude and Practice (KAP) of targeted respondent on water sanitation and hygiene practices.
- To identify water, sanitation and hygiene challenges for the households in camp 16.

This report highlight the major findings and overall achievement of the WASH project over the 12 months period. The end line survey confirmed that since the establishment of the camps, deep tube wells is still the main source of water for the refugee families (64%, end line). However, CARE made a significant improvements in access to safe/chlorinated piped water supply through drilling of boreholes with elevated reservoir tanks in camp 16 accessible to 33% of households (up from 1% during the baseline). The project also impacted on the time spent to/from water source for families to collect water by 56% of households who confirmed that they used 5 minutes or less including the waiting time at the water source compared to 53% during the baseline who used between 5 to 15 minutes to undertake similar activity.

The project improved access to sanitation facilities through the construction of gender segregated shared/communal latrines with 94% of respondents who confirmed that the latrines provided adequate privacy to their families. According to the end line survey, use of latrines by the families for safe disposal of faeces for children 5 years increased thus reduced open defecation by 66% (from 86% during baseline). The study also established that 13% of households use bucket latrines, up from 1% during the baseline. The clear reasons for this increase will need to be investigated further, however some household respondents attributed the practice to the elderly and some persons with disability.
Notable pointers to positive behavior change were reported by study respondents in terms of use of water and sanitation infrastructures and increased awareness on hygiene promotion. 81% of household respondents confirmed that they received hygiene messages through the sessions conducted within the camp by CARE staff. Confidence by households to use the bathing cubicles increased by 31% (47% during baseline). Possession of soap at the household level increased by 26% over the project period. 87% of households confirmed good knowledge of at least three critical times to wash hands while 73% had knowledge of causes of diarrhea disease. 56% 4 prevention methods. On menstrual hygiene management, only 28% of women respondents use reusable pads with majority (52%) who still prefer the reusable clothes. The project also highlighted the main challenge faced by women and adolescent girls with the safe disposal of MHM materials as 31% said they bury (despite the congestion and lack of adequate land spaces in the camps).
SURVEY METHODOLOGY

The methodology for this end line survey was mixed of quantitative and qualitative data from a variety of sources. A review of project documents and reports, including: Secondary data/report and Project Proposal.

Household survey

The household survey data was collected from men and women, across the 4 blocks in camp 16 using tablets with Kobo application with 300 sampled households. Only one member per household was interviewed. In some houses, the questionnaire was addressed to the male respondents while in other houses the questionnaire was addressed to female. The goal was to have 50/50 (male/female) respondents. But fact is, male family members showed interested to participate in the interview; women also willingly handed over the interview responsibility to the male members. When conducting the interview, enumerators ensured the respondents were not influenced or intimidated by other members of their households by maintaining some level of confidentiality. In the Menstrual section, men were not allowed to participate/contribute in the interview. The Sr. MEAL Officer was responsible to finalize the tool and upload on Kobo, responsible to supervise the data collection process by enumerators.

The sample size calculation is presented below:

\[ S = \frac{Z^2 \cdot p \cdot (1-p)}{e^2} \]

Where:

- \( e \) is the desired level of precision (i.e. the margin of error),
- \( p \) is the (estimated) proportion of the population which has the attribute in question,

We want 95% confidence, and at least 5 percent—plus or minus—precision. A 90% confidence level gives us \( Z \) values of 1.64, per the normal tables, so we get

\[ S = \frac{(1.64)^2 \cdot (0.5) \cdot (1 - 0.5)}{(0.05)^2} = 268 \]

As we considered round number, so total sample is – 300

Interval of HH has been defined for the survey that will be selected as a systematic random sample.
FINDINGS
This section presents the main findings of the WASH household follow-up assessment. 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.

Water
This water section begins by presenting findings in relation to water infrastructure, including water sources, water collection, problems and coping strategies as well as water treatment practices.

Data from this assessment shows that almost the entire population use improved water sources as their primary drinking water source.

Water sources
Rohingya refugees’ reliance on improved water sources is critical to the daily households operations. All the households reported that they use improved water sources.

Cox’s Bazar WASH Sector considers “improved” sources as follows: piped water into settlement site, public tap/tap-stand, and deep tube-well/borehole/hand-pump. ‘Unimproved’ water sources include unprotected dug-wells, unprotected springs, and surface water.

Figure 1: Proportion of households reporting using primary sources for drinking water

The most commonly reported primary sources for drinking water were Hand Pump/Boreholes (tube-wells), reported by 64% of households. This was followed by Public Tap, reported by 33% of households. Only 3% of households reported using Pipe Connection to House. In the contrary, during FGD with female beneficiaries preferred “pipe connection to House” facility as they have to travel less for water collection and they described it as a less laborious job. Those who could not access piped water expressed great demand to have stand pipes at their door steps.
Water collection

Water access is one of the intervention areas that CARE is working to improve. The households were asked about daily water collection, time taken to and from the water source, storage and treatment methods at the household level. The survey found out that households generally spend more time waiting at water sources than the distance they cover walking to reach the water points.

On issues related to water collection, households were first asked who normally collects water for the household. Overall, 78% households reported women (adult female and wife of household head) as the most common family member to collect water, followed by adult male (10%), Child 11-18 years (9%) and children 10 years or younger (2%).

During the FGD, women said that mostly adult male are busy with relief collection. However some of them also said men also help them when they are busy with cooking and washing.

Figure 2: Household member who usually collect water for their household

<table>
<thead>
<tr>
<th>Persons Who Collect Water for the Household</th>
<th>Percentage of Household member Who Collects Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult female</td>
<td>44%</td>
</tr>
<tr>
<td>Wife of Household Head</td>
<td>35%</td>
</tr>
<tr>
<td>Adult male</td>
<td>10%</td>
</tr>
<tr>
<td>Child (11-18 years)</td>
<td>9%</td>
</tr>
<tr>
<td>Child (10 years or younger)</td>
<td>2%</td>
</tr>
<tr>
<td>Other</td>
<td>0.33%</td>
</tr>
</tbody>
</table>

Questions on travel time to and from water points and waiting time while collecting water from the source were asked, yielding results reportable against the key Global WASH Cluster and Strategic Development Goals Joint Monitoring Program threshold of <30 minutes combined travel/trip1.

As per the baseline survey, households were asked to estimate the length of time normally spent traveling to and from a water point including waiting time at the water source. Overall, only 2% of households reported a combined travel and waiting time of more than 30 minutes.

Overall, in this end line survey households reported spending more time waiting at water points compared to the time they take travelling to them. Fifty-six percent (56%) of households reported spending less than five minutes travelling to/from water points.

1 Global WASH Cluster threshold here: [https://washcluster.net/resources/](https://washcluster.net/resources/) and SDG JMP threshold here: [https://washdata.org/](https://washdata.org/)
**Water containers**

Understanding the types of containers and their different use across the camps is a starting point to determine household water consumption, as well as practices related to the safe storage of water.

Enumerators observed all containers used for collecting and storing drinking water and for water used for other domestic purposes within the household. Information on the type of container, type of water stored (for drinking, non-drinking or both), approximate water volume, the cleanliness state of the container, whether or not the container was covered and the number of times the household used the container to collect water the day prior to the survey (if any). However, the participants of FGD with PWD accessible latrine beneficiaries preferred to get ‘Kolsi’ (pitcher) instead of bucket or Jerry can for carrying water. The water is collected by the caregivers of the persons with disability who are mostly women and they consider carrying water in Kolsi easier than bucket or Jerry can.

Overall, 72% of households mentioned that the most common type of water storage container is the Jerry can while the bucket is used by only 28% of households.

**Water quantity**

Determining the quantity of water a household is able to access for drinking and for other domestic use is critical in understanding their ability to stay safe from diseases such as acute watery diarrhea/risk of cholera and their ability to maintain hygiene standards.

No direct measurements of the water containers were done by the enumerators to determine dimensions and volume. However, the ideal container size was decided based on UNHCR, “Emergency Water Standard”¹, and declaration that more than 10 liters of water storage capacity per person is

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¹ [https://emergency.unhcr.org/entry/248763/emergency-water-standard](https://emergency.unhcr.org/entry/248763/emergency-water-standard)

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**Figure 3: Proportion of households reporting travel time to/from and waiting time at water source**

<table>
<thead>
<tr>
<th>Time taken to and from the Water Point</th>
<th>Household Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 30 minutes</td>
<td>2%</td>
</tr>
<tr>
<td>30 minutes</td>
<td>8%</td>
</tr>
<tr>
<td>20 minutes</td>
<td>4%</td>
</tr>
<tr>
<td>15 minutes</td>
<td>4%</td>
</tr>
<tr>
<td>10 minutes</td>
<td>25%</td>
</tr>
<tr>
<td>5 minutes or less</td>
<td>56%</td>
</tr>
</tbody>
</table>
recommended. The respondents were therefore asked key questions which were followed by the enumerator’s direct observation of the containers at the time of the interview.

Survey result showed that 89% of respondents are able to collect enough water to meet all of their households’ needs such as drinking, cooking, laundry, and bathing etc.

*Figure 4: Proportion of Household of collecting enough water to meet all household’s needs*

![Proportion of Households Collecting enough Water to meet all Needs.](image)

*Figure 4* above shows that 11% respondents cannot collect enough water to meet all of their households’ needs such as drinking, cooking, laundry, and bathing etc. The study findings established that a number of reasons contributed to this fact namely;

- There are water shortages in some sections of the camps
- Water point/source is too far
- Waiting time at the water point is too long
- Some households don’t have enough storage containers
- It is too dangerous/not safe to get water

Households were also asked how long they stored water after collecting from the source, since a tendency to store water for long periods would reduce the frequency of collecting water every day and this can also give the false impression of lower household-level water consumption. Overall, majority (89%) of households reported storing water for less than one day, with the remainder storing water for between one and two days.

**Water treatment**

This study revealed a significant improvement in the proportion of households treating drinking water with 56% of the household’s responding to the affirmative. On the water treatment products/solutions, aqua tables are used by 36% while chlorine powder and water filters are used by 6% and 0.7% respectively. Fewer (0.3%) respondents stated that they boil drinking water.
Respondents (25%) who shared their reasons for not treating drinking water said they think tap water is treated at source, 23% believe water is safe/look clean, 5% thinks after water treatment the taste goes down and 1% thinks family become sick. However, (2%) of respondents reported that they have never received tablets for water treatment.

Figure 5: Proportion of Household who explained reasons for not treating their drinking water

<table>
<thead>
<tr>
<th>Reasons for Not Treating drinking water</th>
<th>Household Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water from tap, treated at source</td>
<td>25%</td>
</tr>
<tr>
<td>Water is believed to be safe/look clean</td>
<td>23%</td>
</tr>
<tr>
<td>Treated water taste bad</td>
<td>5%</td>
</tr>
<tr>
<td>Other (specify)</td>
<td>3%</td>
</tr>
<tr>
<td>Make my family sick</td>
<td>1%</td>
</tr>
</tbody>
</table>

The study also sought to find out about water source maintenance. 91% of respondents confirmed that regular maintenance is done by CARE and the WASH committee, only 9% reported that no maintenance work was done.

Figure 6: Proportion of Household who confirmed that Water points are being maintained.

<table>
<thead>
<tr>
<th>Responsible to Maintain Water Source/point</th>
<th>Household Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARE Staffs</td>
<td>64%</td>
</tr>
<tr>
<td>WASH Committee with men-women both</td>
<td>17%</td>
</tr>
<tr>
<td>WASH Committee with all men</td>
<td>10%</td>
</tr>
<tr>
<td>Don't know</td>
<td>8%</td>
</tr>
<tr>
<td>WASH Committee with all female</td>
<td>1%</td>
</tr>
</tbody>
</table>
Sanitation:
Households were interviewed on the various sanitation options available for their use, privacy in relation to use of sanitation facilities, waste management and observations were also made to determine the actual use and the sanitary state of the latrines.

Defecation practices and access to latrines:
Understanding different types of latrine options available in the camp and how they are used by the refugees—men, women and children—and associated practices can assist in informing humanitarian programming of access levels and gaps that might still exist especially after an intervention/implementation phase. In the end-line survey households were asked where members go to defecate. The study considered all age groups (under five years old and the adults).

For household members five years old and above, the most reported place of defecation (sanitation options) was communal latrines 49%, followed by shared latrines (46%), and single household latrines 2%. Others places (2 %), bucket and open defecation was seldom reported 1%. The main reasons mentioned for open defecation included disability status of some family members who cannot use the standard latrines, darkness at night and total lack of access to latrine.

On the sanitation facilities/options for household members below five years old, 21% reported communal latrines followed by shared latrines 22%, and single household latrines 0.29%. The study also revealed that significant number (20%) of members practice open defecation, while other household members use bucket latrines (13%).

*Figure 7: Proportion of households reporting areas where family members defecate*

In the FGD with persons with disability, the beneficiary of PWD accessible latrines, were asked about their feeling on accessing and using on the latrines. Majority of them acknowledged that the accessible
latrine has made their life and that of their family members easy. Except for few concerns on the latrines, the positive sides they explained are as follows:

- Users feel happy to use the latrines and feel more dignity and privacy
- There are support rails on the way to latrine which makes it easy to reach the latrine without help of caregivers. There are hand inside making it comfortable to sit on the commode.
- A caregiver does not have to face many trouble now. The caregiver can easily make the person sit on the latrine.
- There is tap inside and getting water is easy for even 2nd and 3rd time if needed for cleaning.
- There are soap, towel and water storage facility in the latrine. A latrine with multi-facility like this is rare in camp.
- There is no bad smell from the latrine.
- Instead of going far and join long queues to access the latrine previously, they have the latrine at their doorstep and can access it without having to queue.

While the beneficiaries think that this is a dream latrine for their own in the camp setting, they mentioned about some drawbacks:

- To keep the commode and latrine clean, it needs three times more water than the flat commode latrines. Carrying water is a very hard work and of course access to adequate water is a problem at times.
- The floor does not drain well and there are chances to slip. While having a hand washing facility inside the latrine is great, no water passing system seems a design fault as the FGD participants consider.
- There is water back splash contact with the body which is not good for those who prays and wants to keep their body/ cloth clean.

From the non-users point of view, the accessible latrine is a great initiative and very helpful for physically challenged and persons with disabilities. They also think that, the accessible latrine will equally be helpful for elderly persons. There are a number of households with elderly people struggling with similar challenges as persons with disabilities to access appropriate sanitation facilities but were not targeted by the project.

On how feaces for children under five years are handled, there was a slight difference between those who said feaces is collected and disposed in the shared latrine and the respondents who mentioned open defecation at 22% and 20% respectively.

**Latrine Observation**

As shown in fig. 8 below during the latrines observations 99% were found to be functional and in use. However, still there are scope to work with the improvement of Hand washing and lighting issues.
According to observation, the toilet is very helpful to use. They appreciate this type of initiative for disable people. Some objections were also expressed during the focused discussion. FGD respondents stated that some persons with partial disability get special facilities/latrines at their doorsteps while there are many elderly persons within the community who are more deserving.

Privacy

The study investigated whether the latrines provided privacy for them and their household members and a significant 94% responded to the affirmative. Only 6% of respondents were not satisfied and they mentioned the following reasons:-

- Infrastructure/door damaged
- Door Lock missing/not working
- No latrine nearby
- Door not closing properly
- Shared among male and female
- Walling materials not good

Bathing facility

As shown in fig. 9 below, the study revealed that 70% of the households use the bathing facilities and that 14% of them share among the male and female gender. The study also found out that 15% of households do not have designated bathroom facility. It was however noted that 78% of the respondents thought their bathing facilities provided adequate privacy.

Figure 8: Observation of the respondent’s latrine

<table>
<thead>
<tr>
<th>Observation</th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the latrine in use?</td>
<td>99.33%</td>
<td>0.67%</td>
</tr>
<tr>
<td>Is the latrine full?</td>
<td>28.00%</td>
<td>72.00%</td>
</tr>
<tr>
<td>Is there a hand washing station at the latrine?</td>
<td>48.67%</td>
<td>51.33%</td>
</tr>
<tr>
<td>Is there usually water in the hand washing station?</td>
<td>44.33%</td>
<td>55.67%</td>
</tr>
<tr>
<td>Is soap or any other rubbing agent present with the hand washing station?</td>
<td>25.33%</td>
<td>74.67%</td>
</tr>
<tr>
<td>Do you consider the latrine to have adequate lighting at night?</td>
<td>38.33%</td>
<td>61.67%</td>
</tr>
<tr>
<td>Is the latrine segregated or have sign for Male or Female?</td>
<td>26.33%</td>
<td>73.67%</td>
</tr>
</tbody>
</table>

Figure 9: Proportion of household using bathing facility

<table>
<thead>
<tr>
<th>Household Respondents (%)</th>
<th>Don’t know</th>
<th>Other (specify)</th>
<th>Do not have any designated bathing facility</th>
<th>Shared among male and female</th>
<th>Have designated shower/bathing facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of Households who Use Bathing Facilities</td>
<td>0.33%</td>
<td>1%</td>
<td>14%</td>
<td>14%</td>
<td>70%</td>
</tr>
</tbody>
</table>

Households who use Bathing Facilities.
Household waste
In the end-line survey households were asked where they normally disposed of domestic wastes. Overall, a majority (84%) of households reported using communal dust bins and only 11% use household dust bins. Designated open waste disposal areas are used by merely 2% of households and the study also showed that still some households (2%) use undesignated areas to dispose solid wastes in the camp (fig. 10).

Figure 10: Proportion of households reporting disposing of household waste in different spaces

The other complaint raised by majority (83%) of the households in relations to wastes was the increased number of rodents and mosquitoes.

Hygiene
This section provides an overview of hygiene promotion activities within the camps. The study focused on key hygiene promotion activities/practices that were implemented in households as well as at communal levels within the project areas such as drinking water container cleaning, hand washing and soap, hygiene training sessions, hygiene kits distribution and menstrual hygiene management among others. The findings are detailed below;- 

Cleaning of Water Containers
Households were asked about the practice of cleaning water containers. Majority (95%) respondents mentioned that they cleaned every time they fill with fresh/clean water. The study also revealed that 5% of households cleaned their water containers at least once a week. On how the water containers are cleaned 71% reported to use a specific product (sponge and soap) and finally rinse with clean water.

Hand Washing and soap
Hand washing with water and soap is a key practice promoted by the project to help prevent/reduce the risks of acute watery diarrhea diseases. To facilitate proper hand washing, CARE distribute soap to households as part of the project intervention. As shown in Fig. 11, the study found out that 95% of households were in possession of soap at the time of the interview.
70% of respondents also confirmed that they received soap from CARE WASH project. The findings also revealed that at least 20% bought soap while 9% of households stated that they received soap from other organizations.

The study further explored other hand washing options/solutions households used when they do not have soap, 39% said they use water only. Use of ash and sand was reported by 15%, while another 12% use of soil as alternative to soap. The analysis further established that another 11% of households did not use anything.

**When to Wash Hands**

The enumerators asked household respondents to mention the most important/critical times when someone should wash their hands. As shown in Fig. 12, most households prioritized hand washing before eating (99%), before cooking of preparing food (89%) and after defecation (87%). However, the findings also established some of the least prioritized moments for household members to hand wash such as before feeding children (27%), after handling a child stool (23%) and before breast feeding (15%).
Hygiene trainings
CARE conducts hygiene promotion through different approaches such as house to house visits, training sessions and through information education and communication (IEC) materials. As shown in Fig. 13 below, the study findings majority of respondents reported participating in at least one hygiene training sessions or demonstration within two weeks prior to data collection, with a similar number of households reporting they would like to participate in more. When asked to mention the best way to receive health and hygiene messages 81% stated that hygiene message sessions are preferred.

Figure 13: Households Preferred way to Receive Health and Hygiene Messages

<table>
<thead>
<tr>
<th>Hygiene Information Dissemination Methods</th>
<th>Household Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hygiene Message session</td>
<td>81%</td>
</tr>
<tr>
<td>Children Hygiene message session</td>
<td>15%</td>
</tr>
<tr>
<td>Home visits by volunteers</td>
<td>4%</td>
</tr>
<tr>
<td>Printed flyers</td>
<td>0.33%</td>
</tr>
<tr>
<td>Other</td>
<td>0.33%</td>
</tr>
</tbody>
</table>

Diarrhea Disease
Diarrhea disease and general acute watery diarrhea are some of the key communicable diseases that are easily transmitted within the camp settings due to crowded living conditions and potential exposure to insanitary conditions. The respondents were asked to mention the causes of diarrhea disease and the top three causes mentioned included flies (86%), contaminated food (84%) and contaminated water (73%). The findings also established that 5% of households did not know the cause of diarrhea while another 5% mentioned that one can get diarrhea by swimming/bathing in surface water (Fig.14).

Figure 14: Proportion of Households Reporting Causes of Diarrhoea Disease

<table>
<thead>
<tr>
<th>Causes of Diarrhoea Disease</th>
<th>Household Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>From contact with faeces of someone sick</td>
<td>2%</td>
</tr>
<tr>
<td>From swimming/bathing in surface water</td>
<td>5%</td>
</tr>
<tr>
<td>Don't know</td>
<td>5%</td>
</tr>
<tr>
<td>From unpleasant odours</td>
<td>43%</td>
</tr>
<tr>
<td>Through drinking contaminated water</td>
<td>73%</td>
</tr>
<tr>
<td>Through eating contaminated or uncooked food</td>
<td>84%</td>
</tr>
<tr>
<td>From flies</td>
<td>86%</td>
</tr>
</tbody>
</table>
Diarrhea Prevention

The study also aimed to understand what the households do to prevent diarrhea disease. As shown in Fig. 15 below, the top four methods households practice to prevent diarrhea disease are through covering food (80%), washing hands with soap and water (70%), cooking food well (65%) and treatment of water with aqua tabs (56%). Another 38% of households also mentioned eating of hot/warm food as a way to prevent diarrhea disease.

The study findings also revealed that only 7% of households know that disposal of a child’s feaces in the latrine help prevent diarrhea diseases and a similar percentage (7%) said that they do not know how to prevent diarrhea.

Figure 15: Proportion of household reporting people can prevent diarrhea

<table>
<thead>
<tr>
<th>Househol Knowledge on how to Prevent Diarrhoea Diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
</tr>
<tr>
<td>Cover food</td>
</tr>
<tr>
<td>Cook food well</td>
</tr>
<tr>
<td>Eat warm/hot food</td>
</tr>
<tr>
<td>Wash fruits and vegetables</td>
</tr>
<tr>
<td>Cleaning cooking utensils with clean water</td>
</tr>
<tr>
<td>Dispose of children’s faeces in toilet/latrine</td>
</tr>
<tr>
<td>Bury faeces in the soil</td>
</tr>
<tr>
<td></td>
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</tbody>
</table>

Menstrual Hygiene Management

During the end-line survey female household respondents were asked about the types of menstrual hygiene materials (MHM) they used during their menses. As shown in Table 16 below, their responses were categorized to - before they were displaced from Myanmar, the type of MHM material used one month prior to the interview and the most preferred type of all MHM materials. The findings showed that 52% of females used reusable clothes before the displacement, 28% used reusable pads one month prior to the interview and reusable cloth is most (48%) preferred for use during the menses.

Table 16: Proportion of Female Respondents who Mentioned Types of MHM Materials used During Menses

<table>
<thead>
<tr>
<th>Menstrual Materials</th>
<th>before displacement</th>
<th>last month</th>
<th>prefer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposable pad</td>
<td>10.00%</td>
<td>19.32%</td>
<td>12.96%</td>
</tr>
<tr>
<td>Reusable pad</td>
<td>8.40%</td>
<td>27.84%</td>
<td>29.63%</td>
</tr>
<tr>
<td>Reusable cloth</td>
<td>52.40%</td>
<td>25.00%</td>
<td>48.15%</td>
</tr>
<tr>
<td>Cotton</td>
<td>2.40%</td>
<td>18.18%</td>
<td>9.26%</td>
</tr>
<tr>
<td>Layers of underwear</td>
<td>22.00%</td>
<td>9.09%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>4.80%</td>
<td>0.57%</td>
<td></td>
</tr>
</tbody>
</table>
Change and Disposal of Menstrual Hygiene Materials

The female respondents were asked where they normally go to change their menstrual hygiene materials. Fig. 17 below detail how and where the female dispose of the used menstrual hygiene materials. However, most (50%) female respondents said that they wash and reuse the MHM materials with only 31% who dispose through burning. The findings further established that used other unspecified disposal methods, only 10% dispose inside the latrines while 2% confirmed that they dispose with the trash.

*Figure 17: Proportion of women reporting disposing menstrual hygiene materials in different spaces*
DISCUSSION

CARE started WASH implementation in March, 2019 and relied on baseline survey findings conducted by REACH in April, 2018 which presented significant gaps across most WASH key indicators. It is important to clarify that CARE implemented the WASH project in two of the total four blocks that make up camp 16. Therefore while the REACH baseline findings represented the entire four blocks, CARE’s end line survey findings is largely representative to the two project implementation blocks.

This end line survey findings show very significant improvement in access to safe (chlorinated) water in camp 16 through the pipe tap stands by 33% up from 1% during the baseline survey. While the tube wells/boreholes remain the primary source of water for drinking and non-drinking uses for the households (baseline, 100% and end line 64%), it is important to note that improved access to safe water through piped tap stands that were constructed by CARE potentially resulted/impacted 36% of households that used tube wells/boreholes during the baseline. The end line survey also showed that 56% of households used 5 minutes or less (baseline 53%, used 5 – 15 minutes) to walk to/from and waiting at the water source indicating that the project helped majority of households to save 10 minutes to access water.

The project distributed water storage jerry cans and buckets with the lids to improve household water safe storage and safe water collection. During the end line survey 72% of households used jerry cans as the common water storage container, this is 63% increase from the baseline findings (9%). While 49% of households were reported to employ different copying strategies including “everyone drinking less” (23%) during the baseline, majority (89%) of end line household respondents confirmed that they collected enough water to meet all their needs. CARE distributed and trained households on the use of aqua tabs to treat drinking water. This resulted to 56% of all households who practiced water treatment during the end line up from 11% at baseline, presenting an increase of 45%. Use of aqua tabs to treat water increased by 32% during the end line survey from only 4% of households who reported to use the product to treat water during the baseline.

The project increased access to shared latrines for both the persons who are 5 years above/below 5 years by 5% (41%, baseline survey) and 16% (6%, baseline) respectively. From the end line survey, 49% (56%, baseline) of household members aged 5 years and above also reported use of communal latrines. Overall, 94% of end line survey respondents confirmed that the latrines provided adequate privacy to their family members. While the end line survey showed no change (1% both baseline and end line) on open defecation by the persons 5 years and above, open defecation among children below 5 years reduced by 66% (86%, baseline). This reduction can be attributed to improved access to both the shared and communal latrines for the households who preferred to have the children’s faeces safely disposed in the same latrines. Of particular interest to note is the 13% (only 1%, baseline) households who confirmed the use of bucket latrines in end line survey. There is need to find out the contributory factors that made households to adopt this less popular sanitation options for children under 5 years old during the project implementation period.

Although the observation of the latrines confirmed 99% to be in good use by the households, a number of gaps were reported as well during the end line survey and which need the attention of the project going forward. The notable gaps/challenges included a confirmation that 72% of latrines were full and only 49% and 44% had hand washing facilities and water in the hand wash facility respectively. The observations also confirmed the strong challenge (75% no soap) the project faced with availability of soap at the hand washing facilities with much of the reasons attributed to theft and sale of soap by

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3 REACH; Water, Sanitation and Hygiene Baseline Assessment; April, 2018
some household members for monetary gain (to address other family needs). Another contradictory revelation on availability of soap is the fact that 95% of households were in possession of soap at the time of interview, with 70% who confirmed to have received soap from CARE. Even though the project constructed and promoted use of gender segregated latrines with gender markers for male and female latrines, the findings of the end line survey showed that majority (74%) of households considered this a challenge that the project was not able to adequately address (increased by 60% from baseline). Further investigations/interviews need to be conducted to understand the specific factors that contributed to this inconsistency.

Significant improvement was realized on solid waste management over the project implementation. The project promoted installation of communal waste bins as well as distribution of household bins. End line survey established that the use of communal waste bins increased significantly by 59% (25%, baseline) while use of household bins reduced by 5% (16%, baseline). Scale up of installation of communal waste bins by the project also impacted positively and reduced waste disposal in open areas by 39% (41%, baseline).

The findings of this end line survey reported that the project made very progressive gains on the key hygiene promotion interventions that were implemented to reinforce positive behavior change among the beneficiaries. The end line survey showed that 70% of households have access to bathing facilities and 78% of respondents confirmed that the bathing facilities provided adequate privacy. Confidence by the households on the safety and privacy of the bathing facilities increased by 31% (47%, baseline) over the project implementation period.

The project distributed soap to the beneficiaries to strengthen hygiene practices within households and to address the baseline gap where 41% of households had problems accessing soap with 23% reported that soap was unavailable (29%, soap expensive). The project's strategy resulted into 26% increase of households in possession of soap within the project areas.

The project inculcated good hand washing practices among the beneficiaries. From the end line survey, over 87% of households were knowledgeable on three (before eating, before preparing food and after defecation) out of six critical moments for hand washing. This was also consistent with the high (81%) of households who confirmed that they received hygiene messages through the camp level sessions conducted by CARE staff. The survey results further established that more (over 73%) able to mention the causes of diarrhea diseases and over 56% of households aware of at least four methods to prevent diarrhea diseases.

The project implementation involved menstrual hygiene management (MHM) innovations which targeted women and adolescent girls. The end line findings showed that most (52%) women and adolescent girls used reusable clothes before their displacement from Myanmar, 28% used reusable pads a month prior to the interview. It's however important to note that 48% of women still confirmed that they preferred the reusable cloth. On safe disposal of the MHM after use the end line findings revealed that majority wash and reuse with 31% who finally burn the materials while only 5% reported disposal in the latrine.
CONCLUSION

The project made a number of achievements in the lives of the beneficiaries in the targeted camp (camp 16) as detailed in the findings. Notable areas are highlighted below:

1. **Awareness to Public Health risks to WASH and measures to reduce them.**
   CARE engaged the beneficiaries on hygiene promotion activities through multiple interactive approaches which resulted into significant positive behavior change in hand washing practice and awareness of diarrhea diseases and prevention methods. The knowledge gain has long-term benefits to the households towards proper management and control of acute watery diarrhea diseases including cholera. The approaches further restored the beneficiaries (including women and adolescent girls) confidence on safety and privacy of the bathing cubicles and contributed to much better personal hygiene practices.

2. **Access to and use of sustainable sanitation facilities**
   It’s evident that the project benefited both the adults and children under 5 years old to access segregated latrines, dispatch from the situation during the baseline. Through the construction of the communal latrines, access and use of latrines increased and helped reduce open defecation by children under 5 year by 66% creating a more sanitary living environment and minimized exposure to fecal oral contamination within the targeted camp/blocks. Increased preference to communal waste bins by the households further highlighted the effectiveness of CARE’s delivery approach to sanitation and related components.

3. **Access to and use of safe and sustainable water services**
   The project beneficiaries (women, girls, men, boys and the elderly) have been able to benefit from chlorinated piped water from the taps, a major improvement from the baseline where households relied on deep and shallow tube wells. This signifies the relevance of the multiple safe water access options that the project employed. The project further impacted on the household level water storage capacity through accelerated distribution of jerry cans and helped reduced the time to/from water sources to collect water for daily use (drinking and other domestic use).

4. **Pilot of latrines for persons with disability**
   Through this project CARE made a remarkable contribution to the field of WASH innovations by implementing the first accessible latrines for persons with disability with add-on components to facilitate access by users. Though evaluated (see annex 4) as a distinct project within the same implementation period (and project area), the success of the pilot study also highlighted the much needed integrated innovations to support WASH improvements in emergency contexts.
RECOMMENDATION

This end line assessment concludes with following recommendation for future improvements:

1. **Scale up of sanitation infrastructure development:**
   Population in the camp is high compared to the available sanitation facilities way beyond the SPHERE recommendations (1 latrine for 20 people\(^4\)). Most deploring is the increasing cases of open defecation which is a strong indicator to the existing gaps for most families. Particular to accessible latrines for persons with disability, CARE’s successful pilot needs to be explored further for scale up to also benefit the elderly and pregnant women (as the pilot findings strongly suggest).

2. **Integrated Community engagement approach:**
   The successes achieved in the implementation of this project draws/links strongly with the participatory community engagement approach that CARE used in the delivery process. The project beneficiaries were drawn across all gender/age and camp level leadership structures, trained for voluntary participation and decision making on all project phases. The overall success of the entire WASH project delivery is therefore attributable to a well-designed and integrated community engagement.

3. **Coordination:**
   Success of WASH programs is dependent on enriched expertise of all the relevant government departments, WASH sector, other implementing partners (international and national) for standardization of designs, standards and alignment of existing policy guidelines. CARE’s implementations involved a strong coordination with the department of Public Health Engineering (DPHE), RRRC, WASH sector and other agencies for enriched learning and compliance with approved global and national standards. Joint meetings and monitoring processes provided positive feedback to the project and impacted on the overall implementation quality.

4. **Scale up of access to safe water:**
   Water demand for households in the camp is higher than the existing supply and still below the SPHERE recommendation of between 7.5 to 15 liters per person per day. The overcrowded camp largely depend on the deep/shallow tube wells most of which are located in close proximity (less than 30 meters) to containment facilities. CARE expanded construction of water distribution networks with reservoir tanks and auto chlorination systems for increases access to much safer water. Future water infrastructure improvements need to prioritize establishment of bore holes with storage reservoir tanks and expanded piped distribution networks.

5. **Water quality monitoring and testing:**
   Periodic monitoring of existing water sources and networks and conducting quality test for key/standard parameters (E. Coli, free residual chlorine, etc.) to maintain acceptable standards according to the SPHERE and national water quality standards/guidelines resulting into mitigated risks to humans from diarrhea diseases.

\(^4\) March 2020 – SPHERE standards and Coronavirus edition

6. **Integrated menstrual hygiene management (MHM);**
   WASH programs should be inclusive, accessible and meet the needs of both gender. Deliberate plans should be made within the program design to provide facilities that are designated to women and adolescent girls and fitted with facilitative components/facilities for menstrual hygiene management.

7. **Gender based violence (GBV) risk mitigation in WASH;**
   WASH programs need to be sensitive to safe access to water and sanitation facilities for women and girls. Risks assessment should be an ongoing process from the start of the project. Women and girls should be engaged/consulted on their views with regards to security and safety of WASH facilities and services and suggested actioned factored in the design and implementation (including continuous improvements) of the project.
## ANNEXES

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Attachment</th>
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<tr>
<td>1.</td>
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<td><img src="attachment.png" alt="UNICEF III Endline Questionnaire_Final Version.docx" /></td>
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<td>2.</td>
<td>End line survey data</td>
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<td>3.</td>
<td>End line survey value dataset</td>
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<tr>
<td>4.</td>
<td>Midterm review (MTR) report</td>
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