

Promoting **WASH** facilities Saving lives

Water, Sanitation and Hygiene (WASH)
in Rohingya Refugee Camps in
Cox's Bazar, Bangladesh

tearfund





In just one year from 2017 to 2018, the Government of Bangladesh, with support from various organizations, established accommodation for Rohingya refugees in the hilly reserve forest areas of Teknaf in Cox's Bazar district. From the outset, efforts were made to ensure organized management of drinking water, sanitation, and waste systems. By 2026, these services evolved into more scientific, structured, and hygienic systems.

Rohingya Refugee Camp 15, Ukhiya, Cox's Bazar, Bangladesh. November 4, 2018
Photo: Din M Shibly/COAST Foundation

Key Success

- 100%** of households received chlorinated drinking water, up from 97% at baseline.
- 100%** of households had enough water for their needs.
- 97%** of households stored drinking water safely in clean, covered containers.
- 100%** of households safely disposed of fecal sludge through the FSTP system.
- 94%** of households used improved communal latrines.
- 92%** of households said there were enough toilets.
- 90%** of respondents washed hands with soap at critical times.
- 85%** of households were satisfied with WASH Non-Food Item (NFI) kits.
- 85%** of households reported no diarrhea in the two weeks before the survey.
- 98%** of respondents felt safe using latrines at night.

Key Impacts Compared to Baseline Scenario

- Safe drinking water storage practices improved substantially. At endline, only 3% of households stored drinking water in clean containers without lids, compared to 49% at baseline.
- Perceptions of water quality improved greatly. At endline, no households surveyed used water that was not visually clear, odorless, and tasteless, compared to 6% at baseline.
- Access to treated drinking water increased, with 100% of households receiving chlorinated water, up from 97% at baseline.
- Water availability improved, as 100% of households reported having sufficient water to meet family needs, compared with 97% at baseline.
- The proportion of households using communal latrines rose to 94% at endline, up from 92% at baseline.
- More households now feel they have enough toilets: only 8% say there aren't enough, down from 16% at baseline.
- Access to handwashing stations near latrines improved greatly. Only 17% of latrines now lack a washing facility, down from 47% at baseline.
- Safety concerns at night have dropped sharply. Only 2% of people now feel unsafe using latrines at night, down from 20% at baseline.
- Fecal sludge management has also improved, with all households (100%) now sending sludge to the treatment plant, up from 98% at baseline.
- Handwashing practices have significantly improved. As high as 90% of people now use soap three or more key times, compared to 83% at baseline.
- Satisfaction with WASH Non-Food Item (NFI) kits increased, with 85% of households expressing satisfaction with kit contents, up from 80% at baseline.
- Overall health has also improved. Among households that had reported diarrhea before, 85% said no one had diarrhea in the two weeks before the survey.



Rohingya Refugee Camp 15, Ukhiya, Cox's Bazar,
Bangladesh. December 3, 2025
Photo: Din M Shibly/COAST Foundation

Impact assessment report
Water, Sanitation and Hygiene (WASH)
in Rohingya Refugee Camps in
Cox's Bazar, Bangladesh

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tearfund



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Cover Photo: *Rohingya Refugee Camp 15, Ukhiya, Cox's Bazar, Bangladesh.
December 3, 2025, Photo: Din M Shibly/COAST Foundation*

Acronyms

AWD	Acute Watery Diarrhea	COD	Chemical Oxygen Demand
BOD	Biological Oxygen Demand	DPHE	Department of Public Health Engineering
BRAC	Building Resources Across Communities	DTW	Deep Tube Well
CFRM	Community Feedback and Response Mechanism	E. coli	Escherichia coli
CFU	Colony Forming Unit	FGD	Focus Group Discussion
CiC	Camp-in-Charge	FRC	Free Residual Chlorine

FSM	Fecal Sludge Management	pH	Potential of Hydrogen
FSTP	Fecal Sludge Treatment Plant	TDS	Total Dissolved Solids
KII	Key Informant Interview	TC	Total Coliform
MRF	Material Recovery Facility	TSS	Total Suspended Solids
NFI	Non-Food Item	UN	United Nations
NGO	Non-Governmental Organization	WASH	Water, Sanitation and Hygiene



Rohingya Refugee Camp 15, Ukhiya, Cox's Bazar, Bangladesh.
December 3, 2025

Photo: Din M Shibly/COAST Foundation

Introduction

The Rohingya refugee crisis is one of the largest and most protracted humanitarian emergencies in the world. Since the Rohingya influx of 2017 in Cox's Bazar, Bangladesh, humanitarian organizations, governments, UN agencies, and national NGOs have been working in the refugee camps of Ukhiya and Teknaf subdistricts.

A key focus of these efforts has been Water, Sanitation, and Hygiene (WASH) interventions, which are essential for preventing disease outbreaks, improving public health, ensuring dignity, and protecting environmental health in the densely populated camps and surrounding host communities.

This assessment provides an overview of the Rohingya influx, the WASH context in the camps, current interventions, their impacts, and key recommendations to improve the sustainability and effectiveness of WASH services.

COAST Foundation has been implementing WASH interventions in Camp-15 in Ukhiya Upazila of Cox's Bazar with support from Tearfund Bangladesh since January 2025. The project focuses on the operation and maintenance of water distribution networks, the Faecal sludge treatment plant, and the solid waste management plant, as well as the rehabilitation of WASH infrastructure such as latrines, bathing cubicles, and water points. It also includes hygiene promotion activities.

This impact assessment aims to evaluate the effectiveness of these interventions, identify existing service gaps, and provide evidence-based recommendations to strengthen sustainable WASH services for Rohingya refugees and host communities.

Objective of the Assessment

The assessment aimed to evaluate the status, effectiveness, and impact of WASH services and infrastructure in the targeted Rohingya camps. It reviewed achievements, challenges, service gaps, community perceptions, satisfaction with water supply, sanitation, hygiene promotion, and solid waste management interventions.

The assessment also identified unmet needs and opportunities and provided recommendations to improve the quality, sustainability, and equitable access to WASH services for Rohingya communities.

Methodology

The assessment used a mixed-methods approach, combining qualitative and quantitative data collection techniques. This approach allowed comprehensive data collection and the triangulation of findings from multiple sources, improving accuracy, reliability, and validity of the results.

Data collection and analysis

Primary Data Collection: Primary data were collected through KIIs and FGDs.

Secondary data review

- Secondary data were reviewed from project reports, monitoring records, maintenance logs, and relevant sector documents.
- WASH sector report and other relevant documents.

Data Analysis and reporting

Quantitative data were analyzed using descriptive statistics (percentages and means) to assess the status and performance of key WASH indicators, including access to safe water, sanitation facilities, hygiene practices, service quality, functionality of WASH infrastructure, and community satisfaction. The analysis considered gender, age, disability, and protection-related factors to ensure an inclusive

KIIs were conducted with project staff, camp-level service providers, community leaders, religious leaders, youth leaders, and WASH committee members. A structured questionnaire was used to assess the program's effectiveness and efficiency.

Photo: COAST Foundation Archive



understanding of WASH service access and use. Qualitative data were analyzed thematically to identify common perceptions, challenges, achievements, unmet needs, and opportunities to improve WASH services. Findings from both quantitative and qualitative data were triangulated to strengthen the validity, reliability, and overall completeness of the assessment.

Timeline

The assessment was conducted from May 12–25, 2026. Data collection took place over 13 days, followed by data analysis and report preparation. Findings were validated through stakeholder consultations before finalizing the report.

Limitations

The assessment covered a limited geographic area and may not fully represent conditions across the project areas. Time constraints limited the number of interviews and observations conducted. Some responses may reflect subjective opinions, which could influence the findings. Seasonal variations and changing camp conditions may also affect the relevance of certain findings over time.

Focus Group Discussions (FGDs) were held with community members, including women, men, and persons with disabilities, to gain qualitative insights.

Photo: COAST Foundation Archive



WASH Intervention

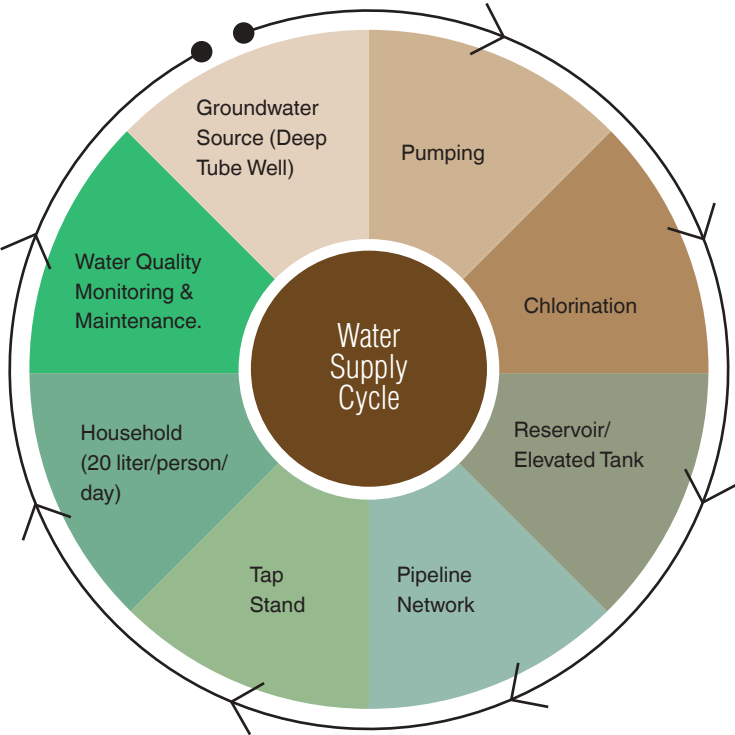
WATER

Water Network

COAST Foundation, with support from Tearfund, has been operating and maintaining three Water Distribution Networks, ensuring a continuous supply of safe drinking water to 1,231 households in Camp-15 in Ukhiya subdistrict.

The water supply system follows several processes to ensure safe drinking water, as outlined below:

- Groundwater is extracted using solar-powered submersible pumps, with 21,305,000 liters extracted so far.
- During pumping, the water undergoes treatment, primarily through chlorination, to eliminate harmful pathogens and reduce the risk of waterborne diseases.
- Treated water is stored in reservoirs or elevated water tanks. These storage facilities help maintain a continuous supply and ensure sufficient availability during peak demand periods.
- Water is distributed from the reservoirs through pipeline networks to tap stands strategically located throughout the camps, ensuring equitable access for all households.
- Regular testing is conducted at the source, tap stand, and household levels to monitor Free Residual Chlorine (FRC) and pH using pool testers at the camp level. In addition, water quality testing is carried out in a water laboratory, where eight parameters are analyzed, including E. coli, pH, TDS, turbidity, nitrate, arsenic, manganese, and iron. At the initial water quality assessment, one water source recorded E. coli contamination of 27 CFU/100 ml, indicating microbiological contamination above acceptable drinking water standards. This risk has been mitigated through continuous chlorination at the source level prior to distribution.



To ensure the supply of safe drinking water, a comprehensive water quality monitoring and assurance system is in place. Water quality is monitored daily at tap stand level by testing residual chlorine and pH using portable pool testers. In addition, laboratory testing is conducted every month to assess key physical, chemical, and microbiological parameters, including pH, turbidity, E. coli, nitrate, manganese, iron, total dissolved solids (TDS), and arsenic.

Water treatment measures, including chlorination, are regularly applied to remove harmful pathogens and maintain microbiological safety. Other preventive measures, such as source protection, watershed management, routine operation and maintenance of the water supply system, and community awareness activities on pollution prevention, help maintain water quality and reduce the risk of contamination throughout the distribution network.

Water quality test reports present the results of all tested parameters and compare them with relevant national and international drinking water standards. For example, a recent water quality analysis recorded a pH of 7.2, turbidity of 3 NTU, no detectable E. coli, TDS of 104 mg/L, arsenic of 0.007 mg/L, and manganese of 0.1 mg/L. These findings indicate that the supplied water meets recommended drinking water quality standards and is safe for human consumption.



Repair and Maintenance of Tube Wells and Other Water Points

Regular repair and maintenance of tube wells and other water points were carried out to ensure a continuous, safe, and reliable water supply for household use, alongside the drinking water provided through the water distribution network.

Upgradation of Tube Wells and Other Water Points

Existing tube wells and other water points were upgraded by deepening wells, replacing pumps, and strengthening structures to improve water yield, water quality, and long-term system sustainability.

Major Impacts

- 1,231 households now receive a more reliable and continuous supply of safe drinking water through the water supply system, reducing reliance on unsafe water sources.
- 100% of households now have sufficient water, supported by the distribution of about 21.3 million liters of treated water to meet daily domestic and drinking needs.
- No household now use water that is unsafe, indicating improved perceived and actual water quality.
- Continuous chlorination and improved water treatment reduced microbiological risks. Early contamination (27 CFU/100 ml E. coli in one source) was effectively controlled through mitigation measures.
- A total of 107 repair and maintenance activities were carried out on tube wells to ensure a continuous supply of safe water for domestic use. In recent weeks, 10 repair and maintenance interventions were conducted, showing sustained and recurring community demand for these services.
- 95% of households are highly satisfied with water supply services due to improved availability, accessibility, and perceived quality.

SANITATION

Faecal Sludge Management

COAST Foundation manages the Faecal Sludge Treatment Plant (FSTP) at Camp-15 in Ukhiya, Cox's Bazar, to ensure the safe treatment and disposal of faecal sludge. The Faecal Sludge Management



"Water is now supplied twice daily, and I can collect enough safe, chlorinated drinking water for my household. Because of the discipline and fairness in the distribution and collection process, all families can access water in a hygienic and orderly way. I am grateful to COAST Foundation, the New Zealand government, and Tearfund for providing essential WASH services to our community."

Satera Begum, a community member and project beneficiary

(FSM) process includes the safe collection, transport, treatment, and disposal of sludge from latrines and septic tanks. The treatment cycle at the FSTP follows these stages:

- Faecal sludge is removed using pumps and other desludging equipment.
- The collected sludge is transported to the FSTP for treatment.
- At the FSTP, sludge is discharged into receiving sedimentation tanks, where large solid materials such as plastics, rags, and debris are removed through screening.
- The sludge is then allowed to settle, separating solids from liquids. The solid fraction thickens, while the liquid moves to the next treatment units.
- Sludge solids are treated in drying beds, planted drying beds, or other stabilization units to reduce moisture and destroy pathogens.
- The separated liquid passes through treatment units such as anaerobic baffled reactors,

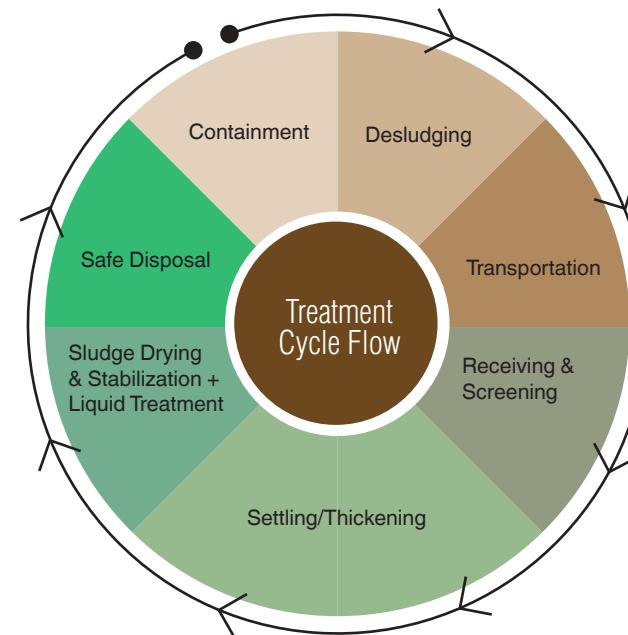


Faecal Sludge Treatment Plant in the Rohingya Refugee Camp 15, Ukhiya, Cox's Bazar, Bangladesh. December 3, 2025

Photo: Din M Shibly/COAST Foundatio

- constructed wetlands, and polishing ponds to improve water quality before discharge.
- g) Treated sludge may be converted into compost, soil conditioners, or other useful products, while treated effluent is safely discharged in line with environmental standards.
- h) Effluent from the polishing unit is tested in a laboratory before discharge. Key parameters,

- including Total Coliform (TC), Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), pH, nitrate, phosphate, and Total Suspended Solids (TSS), are analyzed to ensure compliance with environmental standards.
- i) Any remaining waste that cannot be reused is disposed of in an environmentally sound manner.



To ensure environmentally safe discharge, COAST upgraded the Faecal Sludge Treatment Plant and Polishing Pond and carried out three effluent quality tests during the reporting period.

discharge limit. These findings demonstrate that the treatment process is effectively reducing the organic pollution load before discharge. Routine monitoring and maintenance of the treatment system continue to ensure compliance with environmental regulations and minimise any potential impact on surrounding water bodies and ecosystems.

COAST continued to strengthen sanitation services and environmental protection through effective faecal sludge management. During the reporting period, a total of 2,445,325 liters of faecal sludge were safely collected, transported, treated, and processed through the Faecal Sludge Treatment Plant (FSTP). On average, the project treated 222,302 liters of sludge per month, making a significant contribution to public health and environmental sanitation. To ensure environmentally safe discharge, COAST upgraded the Faecal Sludge Treatment Plant and Polishing Pond and carried out three effluent quality tests during the reporting period. These tests monitored key environmental indicators, including Biological Oxygen Demand (BOD) and other parameters, confirming that the treated effluent met the required standards before being released into the environment.

Regular monitoring and laboratory testing are conducted to ensure that treated wastewater is safe for discharge and complies with national environmental standards. Key water quality parameters, including Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), pH, Total Suspended Solids (TSS), Total Coliform, and Nitrate, are analysed to assess both the effectiveness of the treatment process and the quality of the treated effluent.

The latest laboratory test results show that the treated wastewater had a pH of 7.8, which is within the acceptable discharge standard, and a BOD of 45 mg/L, which complies with the national environmental

COAST-Tearfund Material Recovery Facility at the Rohingya Refugee Camp 15, Ukhiya, Cox's Bazar, Bangladesh. Photo: COAST Foundation Archive



Major Impacts

- 7,403 program participants benefited from improved sanitation service coverage through regular desludging and safe Faecal sludge removal from latrines and septic systems.
- Latrines were de-sludged 1,285 times, ensuring continued functionality by preventing overflow, blockages, and breakdowns.
- 100% households said that regular desludging and treatment ensures better hygiene and reduced exposure to bad odors, pests, and vector breeding, improving overall living conditions.
- Safe transportation and treatment of sludge contributed to lower risk of groundwater and surface water contamination, protecting household drinking water sources.

Repair and Upgradation of Latrine

Regular repair and upgrading of latrines were carried out to ensure they are safe, functional, and dignified. This included replacing damaged components, improving accessibility, and enhancing privacy and safety features.

A total of 92 latrines were covered under this intervention, with 8-10 latrines repaired and upgraded each month, reflecting consistent maintenance and ongoing service delivery.

Repair and Upgradation of Bathing Cubicles

Regular repair and upgrading of bathing cubicles were carried out to ensure they remain safe, functional, and dignified. This included replacing damaged components, improving accessibility, and enhancing privacy and safety features.

A total of 68 bathing cubicles have been covered to date, with 5 to 7 units repaired and upgraded each month, reflecting the importance of continuous maintenance and improvement of bathing facilities.

Installation of Accessible Latrine for Person with Disabilities and Others Vulnerable People

Accessible latrines were installed to ensure safe, dignified, and inclusive sanitation services for persons with disabilities, elderly people, and other vulnerable groups. A total of 7 accessible latrines have been installed during the project period. Currently, 7 persons with disabilities and 3 elderly persons are using these facilities.

Major Impacts

- 100% of latrines are now functional, with 464 households directly benefiting from the repair and

- upgradation of 92 latrines.
- 85% of bathing cubicles are functional, with 494 households directly benefiting from the repair and upgradation of 68 bathing cubicles.
- 30% of persons with disabilities have been reached through the installation of inclusive latrines and the rehabilitation of existing latrines with accessible features.



“Since COAST Foundation took responsibility for WASH services in the block, regular desludging of latrines has been ensured. For example, if a latrine fills up earlier than expected, users can submit a complaint through the CFRM Center. In response, desludging volunteers arrive promptly to empty the latrine. This timely service helps maintain cleanliness and supports healthier living conditions for the community.”

Jannat Ara, a community member and latrine user

Solid Waste Management

COAST Foundation manages one Waste Management Plant/Material Recovery Facility (MRF) in Camp-15 in Ukhiya, Cox’s Bazar, to ensure effective solid waste collection, segregation, recycling, and safe disposal in line with environmental and public health standards.

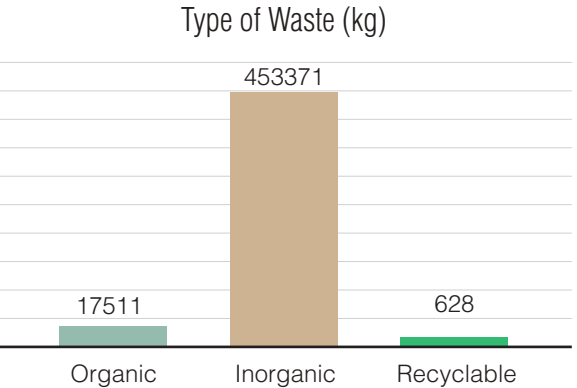
Solid Waste Management Cycle Stages

- a. Waste is generated at household and community levels from daily activities.
- b. Waste is sorted into organic and inorganic categories, including recyclable and non-recyclable materials.
- c. Waste is collected from households and community bins.
- d. Collected waste is transported to material recovery facility.
- e. Recyclable materials are separated for reuse and recycling
- f. Organic waste is processed through composting.
- g. Remaining non-recyclable waste is safely disposed of in sanitary landfills.
- h. Project staff regularly monitor the facilities to ensure safe and environmentally sound management.

COAST implemented an integrated waste management system that promotes environmental sustainability through waste collection, segregation, recycling, and compost production.

During the reporting period, COAST collected about 520 metric tons of solid waste. This included:

- Organic waste: 19 tons
- Inorganic waste: 500 tons
- Recyclable materials: 628 kg



Solid Waste Management, Rohingya Refugee Camp 15, Ukhiya, Cox’s Bazar, Bangladesh.
Photo: COAST Foundation Archive



During the reporting period, an average of 104 tons of solid waste was collected each month. The waste was systematically sorted at collection and processing points into three categories: organic, inorganic, and recyclable materials. Organic waste was processed into compost, while recyclable materials were recovered and linked to recycling value chains. As part of its circular economy approach, COAST produced and distributed 8,525 kg of compost (bio-fertiliser) during the reporting period. The compost benefited more than 7,000 people, particularly households involved in vegetable cultivation. By improving soil fertility and supporting higher agricultural productivity, it also encouraged environmentally sustainable farming practices and reduced reliance on chemical fertilisers.

Major Impacts

- 27,294 people have benefited from improved cleanliness and environmental hygiene in their households and communities through systematic waste collection and management.
- 85% of households now segregate waste at the household level, reflecting increased community awareness and participation in proper waste management practices.
- 8,000 kgs of compost has been provided to livelihood sector, supporting homestead gardening, which contributes to the household nutrition and additional income.



“COAST Foundation has been making significant contributions to the WASH sector through its interventions in the camp. Its work in solid waste management plays a vital role in maintaining cleanliness and environmental hygiene in Blocks A, B, and G through regular waste collection and management services.”
Amran Hossain, Care and Maintenance Officer, CiC Office of Camp-15

Major Impacts

- 90% of respondents now wash their hands with soap at least three of the five critical times, up from 83% at baseline.
- 100% of user groups are now functional, strengthening community participation and ownership in WASH interventions.

HYGIENE PROMOTION AND COMMUNITY ENGAGEMENT

Hygiene promotion and community engagement activities are implemented to improve safe hygiene practices and encourage behavior change at the household and community levels. These activities include awareness sessions on handwashing, safe water handling, sanitation use, menstrual hygiene management, and disease prevention. Community participation is promoted through group discussions, outreach activities, and engagement with community leaders to support the sustained adoption of improved hygiene practices. A total of 27,294 program participants have been reached through these interventions. In addition, 417 user groups and 9 WASH committees are currently functional under this intervention.

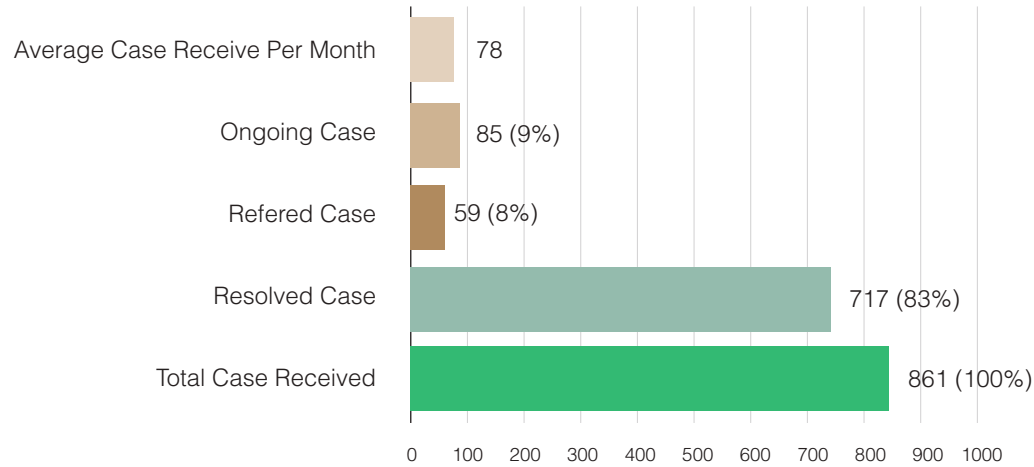


Community Compliance

COAST remains committed to accountability and transparency through an accessible and responsive Complaint and Feedback Response Mechanism (CFRM). During the reporting period, 861 complaints and feedback submissions were received from community members through various reporting channels. Of these, 717 cases (83%) were successfully resolved, including 112 cases addressed through referral mechanisms, mainly involving requests for

new facilities and services that were beyond the project's direct scope. The remaining 144 cases are under active follow-up and resolution. On average, 78 complaints and feedback submissions were received each month, while 65 cases were resolved monthly. These figures reflect COAST's continued commitment to timely responses, meaningful community engagement, and strong accountability to the people it serves.

Community Compliance



Rohingya Refugee Camp 15, Ukhiya, Cox's Bazar, Bangladesh. December 3, 2026
Photo: Din M Shibly/COAST Foundation

RESTORING RELIABLE
ACCESS TO CLEAN WATER

In Block B07 of Camp 15 in Ukhiya, Cox’s Bazar, 104 Rohingya households rely on a single deep tube well (DTW) for drinking, cooking, and bathing. When the facility became non-functional for one month, the community faced a severe water crisis. The situation



Community members expressed strong appreciation for the timely response of COAST Foundation, describing the restored water source as a major relief. Beyond resolving an immediate crisis, the intervention has reinforced trust in WASH service delivery within the community.

was compounded by ongoing maintenance of Water Distribution Network, leaving families with limited alternatives. Many households were forced to purchase water at high cost or travel to adjacent blocks to access DPHE water points, increasing both financial and physical hardship.

Recognizing the urgency, COAST Foundation promptly repaired and rehabilitated the damaged DTW. Following this intervention, the water point was fully restored and resumed normal operation, once again serving all 104 households as a dependable source of safe water.

The restoration has significantly eased daily life. Families now have reliable access to water within close proximity, reducing the burden of collection, eliminating long-distance travel, and removing the need to purchase water. Access to safe water within the block supports essential household activities and contributes to improved hygiene, health, and overall living conditions.

The intervention also strengthened protection and well-being, particularly for women and girls, who are primarily responsible for water collection. With a nearby water source, they no longer need to travel to distant or unfamiliar areas, enhancing their safety. Community members expressed strong appreciation for the timely response of COAST Foundation, describing the restored water source as a major relief. Beyond resolving an immediate crisis, the intervention has reinforced trust in WASH service delivery within the community.

RohingyaRefugee Camp 15, Ukhiya, Cox’s Bazar, Bangladesh.
Photo: COAST Foundation Archive

FROM RISK TO RELIEF: REVIVING
SANITATION FOR CAMP RESIDENTS

In the densely populated Rohingya camps, safe sanitation is essential for public health and dignity. The Faecal Sludge Treatment Plant (FSTP) in Block B, Camp 15, originally constructed by BRAC in 2019, was designed to safely manage Faecal sludge and reduce environmental and health risks. By 2024, however, the facility had become nearly non-functional, leading to sludge overflow, foul odor, and increasing risks of contamination. In these fragile, high-density conditions, the situation posed a serious threat to the health, safety, and dignity of 7,403 residents.

In July 2025, COAST Foundation assumed management of the facility from CARE Bangladesh under the COAST–Tearfund WASH and Nutrition Project. At handover, the plant required urgent rehabilitation to prevent disease outbreaks, particularly diarrhea and other waterborne illnesses, and to restore safe environmental conditions. Then, by September 2025, COAST Foundation carried out a comprehensive upgrade of the FSTP. Key measures included transferring 32,000 liters of accumulated sludge to the DPHE treatment facility, cleaning and repairing stone filters, adding new filtration media, raising manhole walls to prevent rainwater intrusion, and rehabilitating inlet and filtration systems to ensure safe discharge.

The intervention produced immediate and significant results. The upgraded facility now plays a vital role in disease prevention by reducing sanitation-related health risks. Occupational safety has improved, allowing desludging workers to operate with less exposure to untreated waste. Environmental conditions have also improved, with the elimination of overflow helping to protect surrounding soil and water sources, and nearby households reporting reduced odor and nuisance. The plant has regained operational efficiency and can now process 6,000–10,000 liters of Faecal sludge per day, ensuring safer desludging, treatment, and disposal. A local resident, Sirajul Islam, reflected on the impact: “Bad smell and overflow were a big problem for families nearby the FSTP. We feel relieved now as it has been upgraded. Thanks to COAST Foundation, New Zealand Government and Tearfund for their support.”

The successful rehabilitation has transformed a serious public health risk into a functional and reliable sanitation service, improving environmental safety, community well-being, and living conditions for thousands of residents.

Faecal Sludge Management, Rohingya Refugee Camp 15, Ukhiya, Cox’s Bazar, Bangladesh.
Photo: COAST Foundation Archive



Unmet Needs

Despite ongoing WASH interventions, critical gaps persist that require urgent attention. Water supply systems remain overstretched, resulting in long waiting times and insufficient availability during peak hours. Several areas are still not covered by functional water points, further limiting equitable access. Accessibility barriers for elderly persons and persons with disabilities continue to restrict safe and dignified use of services. In addition, the absence of a dedicated water quality testing laboratory necessitates reliance on external factors, limiting the timeliness and consistency of monitoring.

Sanitation infrastructure also requires upgrading. Existing bathing cubicles are overcrowded and no longer adequate for current demand, with particular implications for the privacy, safety, and dignity of women and girls. While a Material Recovery Facility is in place, the lack of a plastic recycling plant constrains effective management and processing of recyclable waste.

Hygiene services face ongoing challenges, including inconsistent availability of soap and limited access to functional handwashing facilities. Sustained behavioral change requires stronger and more systematic community engagement. Furthermore, building local capacity through training at least 800 users in the operation, repair, and maintenance of WASH facilities is essential to ensure long-term functionality and sustainability.

Overall, the scale and complexity of needs continue to exceed current response capacity. There is an urgent requirement to expand infrastructure coverage, improve service quality, ensure disability-inclusive access, and strengthen operation and maintenance systems in order to sustain public health outcomes and prevent deterioration in WASH conditions.



Rohingya Refugee Camp 15, Ukhiya, Cox's Bazar, Bangladesh. December 3, 2025
Photo: Din M Shibly/COAST Foundation

Furthermore, building local capacity through training at least 800 users in the operation, repair, and maintenance of WASH facilities is essential to ensure long-term functionality and sustainability.

Rohingya Refugee Camp 15, Ukhiya, Cox's Bazar, Bangladesh.
Photo: COAST Foundation Archive



Learning Through Partnership Monitoring

Regular partner visits provided valuable insights, informed corrective actions, and strengthened the quality and timeliness of project implementation.



Mr. Clarence Sutharshan Sukunadas, Country Director of Tearfund Bangladesh; Ms.Helen de Vane, Head of Policy & Programme Development; Mr. Sanjeev Bhanja, Emergency Roving Lead, Asia; and Mr. James Rana Baidaya, Crisis to Resilience Regional Advisor, Asia, visit an FSTP at Camp 15 on December 2, 2025.

Photo: Md. Raihan/COAST Foundation



Mr. Clarence Sutharshan Sukunadas, Country Director of Tearfund Bangladesh, monitors tube well repair works at Camp 15 on August 8, 2025.

Photo: MD. Jahedul Islam/COAST Foundation



Mr. Clarence Sutharshan Sukunadas, Country Director of Tearfund Bangladesh; Ms.Helen de Vane, Head of Policy & Programme Development; Mr. Sanjeev Bhanja, Emergency Roving Lead, Asia; and Mr. James Rana Baidaya, Crisis to Resilience Regional Advisor, Asia, visit CFRM at Camp-15 on December 2,2025.

Photo: Md. Raihan/COAST Foundation

James Rana Baidaya, Crisis to Resilience Regional Advisor, Asia, of Tearfund; David Baroi, Finance Manager; and Juyel Bairagee, Business Operations and HR Officer of Tearfund Bangladesh visit water distribution network at Camp-15 on July 27, 2025.

Photo: Manik Esahak Biswas/Tearfund

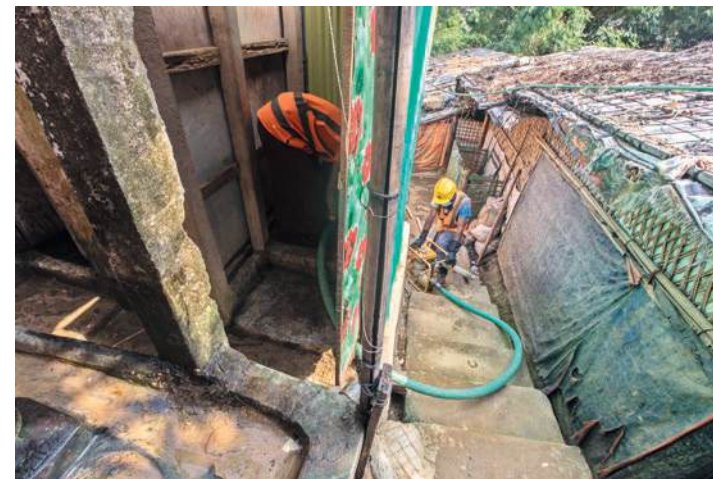


Key Challenges

- Rapid population growth, driven by new arrivals in the camps, is placing increasing pressure on already limited water and sanitation infrastructure, exacerbating service gaps and reducing per capita access.
- Unsustainable groundwater extraction is contributing to a steady decline in water table levels, undermining the long-term viability and resilience of water supply systems.
- Severe land constraints within the camps continue to limit the scope for expanding critical WASH infrastructure, including latrines, water points, and treatment facilities.
- The rising volume of solid waste is exceeding existing collection and treatment capacities, increasing environmental and public health risks.
- Frequent breakdowns of WASH facilities, coupled with delays in maintenance and repairs, are disrupting service delivery and creating persistent operational challenges.

Lessons Learned

- Active community engagement is essential to fostering ownership, accountability, and the long-term sustainability of WASH infrastructure and services.
- The adoption of solar-powered water systems has proven to be a cost-effective and sustainable solution, significantly reducing operational expenses and dependence on fuel-based energy sources.
- Routine operation, repair, and maintenance are critical to preventing system failures, reducing long-term costs, and ensuring reliable and uninterrupted service delivery.
- Integrating inclusive and accessible design into WASH infrastructure substantially improves equitable access for vulnerable groups, including persons with disabilities and older persons.
- Sustained and consistent hygiene promotion is key to reinforcing positive behavioral change and maintaining improved hygiene practices at both household and community levels.
- The introduction of electric waste collection vehicles (e-vans) has demonstrated considerable efficiency gains over manually operated or foot-powered alternatives, enhancing the effectiveness and timeliness of waste management operations.



Recommendations



Rohingya Refugee Camp 15, Ukhiya, Cox's Bazar, Bangladesh. December 3, 2025
Photo: Din M Shibly/COAST Foundation



- Transition to centralized water supply systems to reduce groundwater stress:** Shifting from dispersed tube wells to a centralized, managed water supply system would enable more efficient extraction, distribution, and monitoring of water resources. For example, a piped network supplied from a controlled source can serve multiple blocks, reducing reliance on individual boreholes and alleviating pressure on groundwater aquifers while improving service reliability and equity of access.
- Prioritize rehabilitation and upgrading of existing WASH infrastructure:** Given severe land constraints in densely populated camps, reconstructing and upgrading existing facilities offers a more feasible and cost-effective solution than new construction. For example, expanding or redesigning existing latrines and water points within current footprints can increase service capacity and functionality without requiring additional space.
- Enhance surface water management and storage capacity:** Expanding surface water preservation through pond excavation and restoration can improve local water availability, support groundwater recharge, and strengthen climate resilience. For instance, ponds can capture and store rainwater during the monsoon season, which can later be treated (e.g., through biological treatment systems) and used during dry periods.
- Introduce desalination solutions in salinity-affected areas:** Establishing desalination plants to treat saline water can provide a reliable alternative source of safe drinking water in areas affected by salinity intrusion, thereby reducing dependence on increasingly depleted groundwater resources.
- Promote rainwater harvesting for diversified water use:** Rainwater harvesting systems offer a sustainable supplementary water source that can reduce pressure on groundwater and improve overall water security. For example, rooftop collection systems can capture and store rainwater for non-potable domestic uses such as cleaning and washing, particularly during periods of scarcity.
- Strengthen environmental protection through reforestation initiatives:** Preventing further deforestation and promoting reforestation are critical to protecting fragile ecosystems and enhancing climate resilience in camp settings. For example, planting native species along camp perimeters and on degraded slopes can reduce soil erosion, mitigate landslide risks, and restore ecological balance.

Conclusion

Effective WASH services remain a cornerstone of the humanitarian response, safeguarding public health, upholding human dignity, and supporting environmental sustainability. In Camp-15, Ukhiya, Cox's Bazar, COAST Foundation has played a critical role in delivering these outcomes through the operation and maintenance of water supply systems, fecal sludge treatment facilities, sanitation infrastructure, and sustained hygiene promotion initiatives. These interventions have contributed significantly to improved living conditions for affected populations.

However, the continuity and quality of these essential services are increasingly at risk due to persistent funding shortfalls. At the same time, escalating population density, environmental degradation, climate-related shocks, and declining groundwater levels are placing additional strain on existing systems, threatening the sustainability of past gains.

To protect and build on these investments, sustained and predictable financing is urgently required. Future donor support should prioritize not only the uninterrupted operation and routine maintenance of WASH infrastructure, but also the strategic upgrading and climate-resilient adaptation of systems to meet evolving needs.

Strengthened coordination among donors, government authorities, humanitarian partners, and both refugee and host communities will be essential to ensure efficient resource utilization, local ownership, and long-term sustainability. Continued investment in WASH services is not only life-saving but also foundational to resilience, public health security, and environmental protection in the Rohingya response context.

Rohingya Refugee Camp 15, Ukhiya, Cox's Bazar, Bangladesh. December 3, 2025
Photo: Din M Shibly/COAST Foundation





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