

Case Study: **Bangladesh**

#07 | July 2022

BOLSTERING SOCIAL COHESION USING COMMUNITY-MANAGED WATER SUPPLY NETWORKS IN UKHIA, COX'S BAZAR, BANGLADESH



■ **Background**

Bangladesh is the eighth-most populous country in the world, with a population exceeding 166 million people in an area of 147,600 square kilometres making it one of the most densely populated countries in the world.¹

About a million Rohingyas have fled due to the ethnic cleansing in Myanmar and sought refuge in Bangladesh. The refugees are in temporary settlements in hilly areas of Cox's Bazar with inadequate water and sanitation facilities, giving rise to diseases such as cholera, typhoid, and diarrhoea.

With nearly 15 million litres of groundwater being drawn each day, the Rohingya refugee camps are already under threat of critical water scarcity in the future. Locals struggle to source water for daily needs as thousands of shallow tube wells installed in Ukha and Teknaf Upazilas in 2017 to meet the water demands of more than a million Rohingya refugees. The host community is unable to secure water from 2,000 tube

¹ [The 30 largest and most populous countries \(worlddata.info\)](https://www.worlddata.info/countries/largest-population-countries.html)

wells out of around 3,000 tube wells as the water level in the areas has dipped, according to data from the local Union Parishad (UP).² On average, 20 litres of water was collected and used by each refugee when they first arrived. As such, the demand for daily water for 1.1 million Rohingyas stands at 22 million litres at the Rohingya camps in the two Upazilas. According to United Nations High Commissioner for Refugees, at least 20,000 tube wells were installed within a short period in Kutupalong area under Rajapalong union which hosts the world's biggest refugee camp, after the Rohingya exodus began in 2017.³ But it is neither a suitable solution for both Rohingya camps and host communities.

In this part of Bangladesh, the water crisis is common during the dry season (from the end of November through May) and as the water levels fall sharply, the difficulty to pump water increases. In the same year, significant number of tube wells went dry, in both camps and adjacent host communities and as a result, some locals in the areas were hit by the water crisis. They urged the government to take urgent steps to mitigate the crisis as the shortage of water has made their life difficult which intensified after the Rohingya influx. The host community also worried about the availability of irrigation water, as last year, they had to dig down to an average of 500 feet to reach the water table. Previously, the shallow tube wells had proven to be sufficient to meet water demand. Now that thousands of tube wells have been installed, the crisis has worsened in both camp and host community and has created tension. Ukhiya Upazila is an environmentally critical area where more than seven hundred thousand Rohingya refugees are supported through humanitarian response, while the host community continues to face a water crisis for the past 6-8 months.⁴ Among them, only 8% of HH have access to a safely managed water supply and similarly, the other 90% have a basic water supply.⁵ So ensuring year-round water supply remains an issue for both camp and host in the long run.

■ Strategy and implementation

During an emergency, UNICEF's WASH initiatives ensure immediate survival, dignity, and prevention of disease outbreaks. As a situation stabilizes or becomes protracted, UNICEF focuses on sustainable solutions through capacity building, infrastructure, and refugee-led hygiene promotion activities. In alignment with the Sustainable Development Goals (SDGs), UNICEF promotes universal and equitable access to WASH for refugees and host communities. UNICEF advocates with governments for refugee inclusion in national WASH systems, including planning, budgeting, and monitoring. When government monitoring systems do not exist or do not cover refugees, UNICEF's WASH monitoring system collects data on households and communities (including schools and healthcare facilities). UNICEF, partners, and governments use the data to adapt programming to try to meet the standards and targets relevant to refugee emergencies and protracted situations.⁶

In 2018, the government prioritized host communities and instructed humanitarian agencies to utilize 25% of their fund in the host community to reduce the tension and build cohesion. Under the overall leadership of the Government of Bangladesh, the humanitarian community engaged in needs assessments,

2 Akhter, M., Uddin, S. M. N., Rifa, N., Hridi, S. M., Staddon, C., & Powell, W. (2020). Drinking water security challenges in Rohingya refugee camps of Cox's Bazar, Bangladesh. *Sustainability*, 12(18), <https://doi.org/10.3390/su12187325>

3 <https://www.unhcr.org/news/latest/2019/1/5c2fc16a4/fighting-water-scarcity-coxs-bazar-refugee-camps.html>

4 <https://www.thedailystar.net/backpage/sudden-water-crisis-affects-parts-city-1215151>

5 <https://www.researchgate.net/project/WASH-Mapping-at-Host-Communities-and-Developing-participatory-WASH-Plan-for-Coxs-Bazar-District>

6 <https://www.unicef.org/appeals/bangladesh>

consultations, and strategic planning, which resulted in the prioritized Joint Response Plan, to respond to the critical needs of Rohingya refugees in Cox's Bazar and mitigate the impact on the host communities in Ukhiya and Teknaf Upazilas. To overcome this issue and to avoid future water conflicts, agencies working in the WASH sector decided to withdraw shallow tube wells and install only deep tube wells.⁷ One of UNICEF's big concerns was that the shallow tube wells could result in outbreaks of water-related diseases. To avoid this possibility, emergency latrines were replaced with new, more hygienic designs approved by water and sanitation experts and the Bangladesh government.⁸

Implementation step 1:

UNICEF took initiative to conduct a study with the support of the International Centre for Diarrhoeal Disease Research, Bangladesh and organized a workshop involving local government and relevant departments to identify the gaps and priorities of WASH areas where government and other institutions could contribute based on the need of the community.

Implementation step 2:

The design was developed in consultation with the community, LGIs and the Department of Public Health Engineering (DPHE). The biggest advocacy was to involve the community and to ensure the administrative support of local government and technical support, which was under the supervision of the DPHE throughout the process of site selection, designing and construction of three water distribution networks in Rajakhali Union under Ukhiya Upazilla (JRP area).

Implementation step 3:

Three members management committee has been developed which is led by the local chairman and includes members from community leaders and user groups. Through repeated advocacy and collaboration with the management, the committee set a tariff model that was tailored based on the individual household income and for the growth centre and institutions. For proper management of the networks, standard documentation and record keeping was developed.

Implementation step 4:

By the end of the project, capacity of the management committee and pump operator were strengthened which ultimately empowered the community with enough knowledge for WDNs management and was handed over to the LGIs and community people.

Implementation step 5:

According to the plan, the tap-stand-based water user group collects the tariff locally which will be deposited by the management committee in the bank, looking after the regular Operation and Management (O&M). Furthermore, the management committee reviews it in monthly meeting and take action against the defaulter.

⁷ <https://reliefweb.int/report/bangladesh/2019-joint-response-plan-rohingya-humanitarian-crisis-january-december-enbn>
⁸ <https://rdcu.be/cOJ4x>

■ Progress and results

After completing all levels of consultation work for land acquisition, under the leadership and technical support of DPHE and in collaboration with the UNO office and local government site selection and design finalization were completed. Furthermore, community and user groups supported the construction work which was completed in 2020.

The water supply networks can provide 100m³ chlorinated water for around 18,352 people (3,500 HH) including institutions and growth centres. By 2020, all three water networks have been functional and can supply water two times a day. Furthermore, tariff collection has increased over the period, due to the dependency on the system. Initially, they were not in favor of chlorinated water, however, over time they understood the importance of water disinfection and were habituated.

The increased availability of safe drinking water year-round in sufficient quantity provided through the three new water networks has proven to be able to support the reduction of tension between refugees and the host communities. Involvement of the local government and community in the management creates the ownership and the first step toward sustainability.

This new influx of refugees not only aggravates the pre-existing protracted crisis of Rohingyas in Bangladesh but also builds additional pressure on the already fragile host community and economic condition. Therefore, both administration and host community people have a similar expectation to have everything handed to them. Here the difference between humanitarian support and development aspects has been the key triggering for motivation as refugees are landless and they need humanitarian support. UNICEF by mandate supports the government plan and directives to allocate 25% funding for host communities maintaining peacebuilding and social cohesion. These three water networks change the mindset of the host community people and views towards Rohingya response about easy accessing year-round quality water according to the demand.

Challenges:

Setting the tariff and collection rate has been a challenging issue due to the different nature of households, religious groups, growth centers/public places and institutions

The covid restriction affected the livelihood of people as most of the institutions and offices were closed, which impacted the tariff collection.

The Upazilla-based network management committee consists of a high-level official like UNO (chief executive officer of an Upazila), public representatives like the Upazilla chairman and Upazilla level development/ civil society. Compared to the other two water distribution networks, the role of this committee has been limited and the involvement has been quite passive, due to their involvement in other engagements.

■ Lessons learned

- Generally, rural community hesitates to accept the new system but, in this case, it was accepted and supported by the community. Moreover, the communities were willing to pay based on the economic conditions of the household.
- Given that the new water supply system addressed issues previously brought up by the community, high levels of engagement, including the donation of private land for the water reservoir and pump house were observed leading to clear ownership of the system for future maintenance and operation.
- The sustainability of the projects can be ensured through the involvement of stakeholders on all levels including users and LGI, this did include joint consultation on site selection and construction supervision. Empowering the management committee which includes the user community and LGIs for future O&M.
- The solar-powered water supply system is a cost-effective environment-friendly technology for rural communities compared to the electricity-based option and where the reliability of electricity is an issue.

■ Way forward

- Replication of this type of water network following the National Sanitation Road Map to achieve SDG-6
- Initiating to conduct hydrological assessment/monitoring as heavy extraction of groundwater through the water supply system and for triggering advocacy and influencing for safe management of the aquifer.

Related links:

- [Underground water in Teknaf, Ukhia receding fast](#)
- [Drinking Water Security Challenges in Rohingya Refugee Camps of Cox's Bazar, Bangladesh](#)

UNICEF

Author: Mohammad Ali; Email: mohammaali@unicef.org

For more information, contact:

Aynul Huda; UNICEF, Email: ayhuda@unicef.org

Zahidul Mamun; UNICEF, Email: zmamun@unicef.org

Bishnu Pokhrel; Email: bpokhrel@unicef.org

The statements in this publication are the views of the authors and do not necessarily reflect the policies or the views of UNICEF.