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SUMMARY AND COMPILATION OF
CASE STUDIES

South Asia Region WASH WriteShop

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SUMMARY

An intensive workshop, bringing writers from South Asia region to develop a written knowledge product (case study) was conducted by the Regional Office of South Asia (ROSA). The focused support was provided through three virtual group sessions and three one-on-one sessions, for one month. The WASH WriteShop 2022 was conducted following the success of a pilot in 2021, where ROSA's WASH section supported a UNICEF Bangladesh Country Office team member in developing a [WASH Diary](#) and a [WASH Field Note](#) about *Empowering Adolescent Girls through Sexual and Reproductive Health and Rights and Menstrual Hygiene Management*. WASH colleagues from Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka participated in the WriteShop and successfully published 15 case studies.

The objectives of the WriteShop were as follows:

- Bolster WASH staff's English-language drafting skills as well as their ability to effectively structure written products.
- Provide a professional development opportunity for WASH colleagues, especially for first-time authors
- Establish an effective training module that can be re-used based on UNICEF ROSA and Country Office needs.

The following are the outcomes of the WriteShop:

- Increased number of UNICEFWASH knowledge products
- Strengthened WASH teams' capacity to identify high-quality case study topics
- Training material package to enable future CO level WriteShop developed.

Case study executive summaries

Providing solar-powered water supply systems to promote safe drinking water and hygiene in Maidan Wardak province of Afghanistan

Author: Mohammad Khalid Azami

This case study highlights the intervention done by the Afghanistan office in Maidan Wardak which is one of the most conflict and drought-affected provinces in 2021. Having limited access to water sources due to recurrent drought, people collect water either from few available water wells or are purchased. In July 2021, UNICEF began the implementation of the water supply project through the provision of safe drinking water and the promotion of hygiene education in Hewad Mena. Amongst other progress and results, 400 households related to water meters and water was distributed through main and sub pipes and points out that community-based engagement is important for having substantial water supply projects.

Adolescent girls lead as Menstrual Hygiene Management MHM facilitators in the Rohingya community, Cox's Bazar, Bangladesh

Author: Shajeda Begum

This case study provides an overview of the Menstrual Hygiene Management (MHM) in Water Sanitation and Hygiene (WASH) programme adapted by UNICEF Cox's Bazar. Managing menstruation in a dignified manner possess barriers such as access to WASH services and receiving information on MHM. This intervention aimed to create a sustainable solution to change behaviours associated with MHM and as a result, around 70 trained personnel have been working in the community to improve MHM practices 555

trained community-based volunteers and sub-block level WASH committees are responsible to provide support for MHM improvement at the community level. Furthermore, it shares the importance of context-specific approaches as a strong vehicle for community mobilization.

[Paradigm shift: The humanitarian-development nexus in Cox’s Bazar district, Bangladesh](#)

Author: Zahidul Mamun

This case study provides its reader with an insight into supporting people with improved WASH services to contribute to improving the public health situation in the humanitarian and development context. Cox’s Bazar has the worst WASH indicators according to a study and the humanitarian situation for refugees remains dire and has added additional pressure on the already fragile host community. Amongst other things, UNICEF Bangladesh ensured WASH services among 25% of the district people with the use of safe drinking water and 15% of people with improved sanitation services. Furthermore, it recognizes the extensive replication of the Community Approach to Total Sanitation (CATS) and Sanitation Marketing (SanMark) to achieve the Sustainable Development Goal SDG 6.

[Rohingya communities benefit from pipe water distribution networks in the Cox’s Bazar district, Bangladesh](#)

Author: Kabita Yesmin

The author of this case study outlines the step-by-step implementation strategies and challenges of supplying bacteria-free water in the emergency context in Cox’s Bazar which already has the worst WASH indicators in Bangladesh. To provide sustainable safe water access to 24 million people by 2030, UNICEF is working with the government to provide sustainable safe water access to 24 million people by 2030 through a Joint Response Plan for the Rohingya Humanitarian Crisis (JRP) in Cox’s Bazar. At the end of the project, 73% of the population was provided water supply in the community. The author recommends using the technology used in this project can be embedded in a national programme and in other countries as it has proven to be effective to serve larger groups of the population in special humanitarian settings.

[Bolstering social cohesion using community-managed water supply networks in Ukhia, Cox’s Bazar district, Bangladesh](#)

Author: Mohammad Ali

This case study briefs about the water crisis that the host community and refugee camps face especially in the dry season. As significant numbers of tube wells went dry, urgent steps were necessary to mitigate the crisis which has made the lives of people in the community difficult and only intensified after the Rohingya influx. Cox’s Bazar office in Bangladesh focused on sustainable solutions through capacity building and improved infrastructure to reduce tension and conflict between refugees and host communities. This case study provides insight into three new water networks which increased the availability of safe drinking water in sufficient quantity for both parties.

[Inter-community bridging: an indicator of social cohesion in Rohingya refugee camp, Cox’s Bazar district, Bangladesh](#)

Author: Deepak KC

This case study aims to explore UNICEF implementing partners’ strategy to prevent inter-community conflict and maintain social cohesion in a host community that is already vulnerable after the massive arrival of refugees. Such strategies may be useful in preventing inter-community conflict that may arise while sharing the same resources and may help in strengthening social bonding.

UNICEF and OXFAM avoided possible inter-community conflicts that could have occurred (due to sharing the same water source) by ensuring sharing of safe drinking water and job opportunities to host community people.

[Acceleration towards 100% access to pour flush toilets and open defecation free \(ODF\), Bhutan by 2022](#)

Author: Sonam Gyaltsen

This case study highlights its journey in the implementation of the Rural Sanitation and Hygiene Programme (RSAHP) which is a community-led, demand-driven approach to combat the prevalence of sanitation and hygiene-related diseases in Bhutan. This programme combines elements from SNV's comprehensive and area-wide Sustainable Sanitation & Hygiene for All (SSH4A) and some components from UNICEF's Community Action to Total Sanitation (CATS) and Community-Led Total Sanitation (CLTS) approaches. As of 2021, 63% of the communities (129 blocks out of 205 blocks) and 8 dzongkhags (districts) of the total 20 districts have achieved ODF status and improved sanitation coverage.

[A menstrual hygiene management working committee formed in the Andhra Pradesh state in India is creating a model that needs to be replicated](#)

Author: Jennifer Selvaraj

This case study provides its reader with an insight into the importance of cross-sectoral collaboration among government institutions under the facilitation and guidance of UNICEF for appropriate Menstrual Hygiene Management (MHM). Formation of the MHM committee in Andhra Pradesh and supporting MHM-related activities in the state have been two crucial strategies devised by UNICEF and the state. It furthermore identifies the gaps and addresses the challenges jointly and ensures that there is no duplication of work as the committee has a total of eight major line departments. Serving as model states, Karnataka, Tamil Nadu and Assam are on their way to forming such committees.

[Nilogon technology: a home-based community-level solution for fluoride mitigation in Kanker district of Chhattisgarh, India](#)

Author: Biraja Kabi Satapathy

This case study gives an overview of an intervention implemented by UNICEF India in Kanker which is one of the fluoride-affected districts of Chhattisgarh. As a result of an excessive amount of fluoride in drinking water, children and adults in the villages of the Kanker district were found to have dental fluorosis. For household-level, nilogon technology was adopted, which has been proven to be effective in fluoride removal, developed by Tezpur University. The community was involved in surveillance activities for water quality management, which enabled them to take preventive or remedial action to ensure potable water.

[The Maharashtra government and UNICEF partner together to build the capacity of wash stakeholders during COVID-19](#)

Author: Balaji Vharkat

The recent floods cyclones, landslides, and the pandemic has added pressure on the WASH services and the stakeholders engaged in it. To support the government to strengthen WASH service delivery through the enhanced capacities of the stakeholders, UNICEF provided capacity building and real-time information dissemination and monitoring support through RapidPro technology. This case study highlights the strategies involved to the stakeholders engaged in WASH service delivery, share information, collect real-time feedback from them and monitor the WASH service delivery using the technology.

[Improving the functionality of community water supplies through water safety planning \(WSP\)](#)

Author: Bishow Raj Bhatt

This case study highlights the context and geo-specific interventions with a small modification to the existing Water Safety Plan (WSP) approach for the improvement of functionality and sustainability of the community. The intervention was implemented in close coordination with the government in 19 municipalities in 2 provinces after identifying communities having difficulties in accessing safe water.

[Increased access to safe drinking water in the village in China, Nepal](#)

Author: Katak Rokaya

In this case study, the author highlights the multiple impacts of having limited or no drinking water supply in the community. To address the gaps and challenges identified to achieve Sustainable Development Goal (SDG) target, UNICEF Nepal initiated a WSP intervention in China village's water supply project which is the foremost action to localize SDGs in rural communities. Through this programme, the capacity and knowledge of users were strengthened on water safety, functionality improvement of water supply projects, water quality testing, treatment, and the institutional set-up for regular operation and management.

[Ensuring water quality through the regular use of chlorine and FRC testing in Kanchanpur, Nepal](#)

Author: Pratibha Chaudhary

The author of this case study gives a brief of an intervention supported by UNICEF to scale up the Water Safety Plan (WSP) and Water Safe Community (WSC) in urban and semi-urban areas in Karnali and Sudurpaschim province. Although an ongoing project, so far, they have been successful in involving the community as community involvement is a key to determining the success of any project.

[Empowering women to promote safe menstruation in Chitral district Khyber Pakhtunkhwa \(KP\) province, Pakistan](#)

Author: Wassaf Syed Kakakhel

This case study provides an overview of how the Pakistan office tackled the challenge of MHM at the provincial level in a province that has a vast regional/ provincial disparity in providing equal opportunities for schooling for girls, with the greatest disparity in Khyber Pakhtunkhwa (KP) province. UNICEF and other partners served as an active member and contributed towards the MHH agenda and through different WASH interventions, 28,065 individuals were served by the project.

[Climate resilience of community managed water supply systems in rural Sri Lanka](#)

Author: Nilusha Patabendi

This case study delves into the rural water supply scheme in Sri Lanka that has been threatened by multiple climate risks such as flash floods, droughts, landslides, and salinity intrusion. To understand the issues on Water Safety and Security Plans (WSSP), a baseline study was undertaken to identify gaps and interventions required to improve sustainability while ensuring climate resilience, amongst other things. It further highlights the extension of the water safety and security plans as an essential requirement for sustaining any water supply. Prioritizing water safety and security, UNICEF had implemented Climate-Resilient Water Safety and Security Plans (CRWSSP) integrates national programming into the global and local level strategic plans.

Case Study: **Afghanistan**
 #03 | July 2022

PROVIDING SOLAR POWERED WATER SUPPLY SYSTEMS TO PROMOTE SAFE DRINKING WATER AND HYGIENE IN MAIDAN WARDAK PROVINCE OF AFGHANISTAN



■ Background

Afghanistan is affected by manmade and natural disasters, which have caused a significant displacement of people. People often move from their place of origin to cities and are settled in areas where access to safe drinking water is limited. In 2020, only 47.5 per cent of the population had access to basic drinking water services and 38.1 per cent had basic hygiene services¹. As a result, water-borne diseases such as diarrhoea and cholera threaten people's lives, including that of children.

Maidan Wardak was one of the most affected provinces by conflict and drought in 2021. More than 2,000 families were displaced to the Northern part of Maidan Wardak City where access to WASH facilities was limited. Of these families, 560 (3,864 individuals) ended up living in Hewad Mena village. Most of these families are either returnees from Pakistan or are Internally Displaced Person (IDPs) from different conflict-affected districts of Maidan Wardak, Ghazni, Nangarhar and Laghman Provinces. These populations are the most vulnerable in the province due to their poor economic conditions.

The area has access to limited water sources due to recurrent drought. People either collect water from the few available water wells (located between 200 meters and 600 meters distance of the premises) or

¹ Joint Monitoring Programme, 2020

use purchased water. This limited access to water and poor awareness about hygiene practices caused several waterborne diseases.

Community representatives from Hewad Mena village requested support from the Provincial Rural Rehabilitation Directorate (PRRD) and Danish Committee for Aid to Afghan Refugees (DACAAR) to improve their access to safe drinking water and hygiene promotion. PRRD and DACAAR approached UNICEF to partner on this request. UNICEF activated its partnership with DACAAR to provide safe drinking water and organize hygiene promotion sessions to the people in Hewad Mena.

■ Strategy and implementation

UNICEF is the leading United Nations child rights mandated organization working with the de facto authorities of Afghanistan and other implementing partners to fulfil every child's right to water. UNICEF Afghanistan's WASH programme is in line with global UNICEF WASH policy and priorities and contributes to the achievement of the Sustainable Development Goal (SDG) 6 (having a strong focus on SDG 6.1 and SDG 6.2). UNICEF Afghanistan's Country Programme document for 2015-2022 prioritizes access to sustainable WASH facilities to address the needs of vulnerable children and their families. To achieve its objective UNICEF supports emergency and development partners to deliver WASH services to deprived and vulnerable communities in Afghanistan. The provision of safe drinking water through sustainable options is a key priority for the de facto authorities and UNICEF is supporting partners to provide safely managed drinking water to people on their premises. In July 2021, UNICEF began the implementation of the water supply project in Hewad Mena, which was completed in March 2022.

The project consists of two main components and several activities:

The provision of safe drinking water:

1. Completion of technical assessment
2. Get community consent on project implementation and their contributions
3. The signing of an agreement with partners
4. Drilling of a water well with a depth of up to 160 meters
5. Construction of a water reservoir (40 m³)
6. Installation of a solar pump and a solar-powered system
7. Installation of 400 household connections with water meters
8. Establishment of a water management committee at the community level
9. Training and equipping of a mechanic with the required skills and tools
10. Handing over of the project to community and municipality.

The promotion of hygiene education:

1. Organizing hygiene promotion sessions
2. Household visits
3. Distribution of hygiene kits, soap bars and dust bins.

The project was completed with the close coordination and cooperation of Maidan Shar municipality, PRRD and community representatives. As the municipality did not have technical staff, the PRRD technical team

was assigned to regularly monitor project progress and submit their reports to the involved stakeholders. In addition, the project was monitored by a third-party monitoring team and UNICEF-supported engineers and officers.

■ Progress and results

The project outputs and results for safe drinking water are as follows:

1. Technical WASH assessment completed
2. Bore well drilled at the depth of 160 meters
3. A 40 m³ concrete water reservoir constructed on the hillside around 1 km away from the bore well
4. 22 kW water pump and 26 kW solar power system installed
5. 400 household connections with water meters built
6. Water distributed through main and sub pipes (1.9 km length)
7. 3,864 people (1,902 men, 1,962 female) got access to safe drinking water on their premises
8. A water management committee was established and is functional. People assigned a mechanic and begin paying his service wage
9. The mechanic was trained and equipped with the required skills and tools
10. Handing over of the project to community and municipality.

The project outputs and results for hygiene promotion are as follows:

1. Representatives from 560 families attended hygiene promotion sessions
2. Hygiene promoters organized at least three rounds of household visits
3. 560 hygiene kits were distributed to and used by 560 families
4. 560 families received three rounds of soap bars
5. A sanitation campaign was organized, and 560 dustbins were distributed to the targeted beneficiaries.

One of the indirect results of the project was children were able to concentrate more on their studies and complete their homework without worrying to fetch water. Furthermore, families were able to save money due to the availability of water on their premises; this in turn supported them to spend the saved amount of money for the procurement of other essential items. In addition, the project positively changed the health status of the families and targeted families reported a significant reduction in water-borne disease.

■ Lessons learned

- 1) **Community participation is very important:** Need and potential-based WASH interventions and community-based engagement are important for having substantial water supply projects. Effective application of community participation approaches requires commitments and engagement of implementing partners. It is important to seek community engagement during the design, planning, implementation, and monitoring of water supply projects.
- 2) **Installation of water meters at the household level supports efficient use of water:** Water meters not only monitor water consumption but also saves money incurred by more attentive water use. Water meters promote equity because families pay as per their actual water consumption instead

of paying a fixed amount at the household level. Implementation of solar-powered water supply networks with the installation of water meters proved to be an effective way to ensure sustainability of the project and efficient use of water.

- 3) **Groundwater recharge should be integrated as a part of water supply networks:** Using groundwater for safe drinking water should be strengthened with groundwater recharge measures as due to decreased rainfall, drought, deforestation, urbanization, and climate change the infiltration rate of water is often reduced. Groundwater recharge should be integrated into de facto authorities and humanitarian actors' agendas and concrete actions need to be taken to ensure overextraction through new systems, risking further water scarcity in the targeted area.

■ Way forward

- Afghanistan has the potential to scale up solar technology used for the provision of safe drinking water. The country has potential, with up to 300 sunny days/year, to scale up solar-powered water supply networks at the national level. Development actors including de facto authorities, UN agencies and international organizations need to support this initiative.

Related links:

- [Afghanistan Living Conditions Survey 2016-17](#)
- [Afghanistan National Maternal and Newborn Health Quality of Care Assessment 2016](#)
- [Rural Water, Sanitation and Hygiene Overview](#)
- [Assessment of solar energy potential and development in Afghanistan](#)

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Case Study: **Bangladesh**
 #04 | July 2022

ADOLESCENT GIRLS LEAD AS MENSTRUAL HYGIENE MANAGEMENT FACILITATORS IN THE ROHINGYA COMMUNITY, COX'S BAZAR, BANGLADESH



■ Background

Adolescence is a vital period for human development as life enters a new phase with the onset of menstruation for girls. This new change sometimes leads many adolescents to experience stigma, bullying and social exclusion, also introducing them to new vulnerabilities. In many parts of Bangladesh, menstruation is a taboo and has myths attached to it which can lead to poor personal hygiene and consequent health issues for women and girls. These stigmatizing beliefs often lead to women being isolated during the onset of menarche. Existing myth and cultural beliefs influence dietary restrictions (like a prohibition of eating fish and meat) and create movement restrictions, which could generate long-term health complications and result in low confidence among adolescent girls. Hence, girls do not often reach out for medical advice in the event of any unpleasant or abnormal menstrual experiences. According to a study, 18% of adolescent girls and 16% of women face privacy problems when changing menstrual materials at home and 25% of girls reported that they were not allowed to perform regular activities such as cooking or travelling.² As a result, the overall development of adolescent girls has been negatively affected and this experience has hampered their physical, mental, and social growth.

Menstrual hygiene management (MHM) is even more challenging for women and girls with disabilities due to their dependency to be supported in managing their menstruation and a lack of access to WASH facilities.

² National Hygiene Survey, Bangladesh, 2018.

20% of girls with disabilities can manage their menstruation by themselves, while 60% of girls with disabilities depend on a caregiver³. 47% of girls with disabilities face sexual harassment to get access to water sources and sanitation.⁴ Therefore, the principle of “leaving no one behind” reminds us to focus on eliminating discrimination and inequalities to achieve sustainable development for all.

In 2017 an estimated 745,000 Rohingya people arrived in Cox’s Bazar, after a massive wave of violence against them broke out in Myanmar⁵. This was the world’s fastest-growing refugee crisis with the largest gender discrepancy as 52% of the total refugee population were women and girls and over 80% were women and children.⁶ Girls, who represented 57% of the refugees, are particularly at risk of child marriage, sexual exploitation, abuse, and neglect⁷. The facts on the ground presented unique challenges, as well as opportunities for saving lives, protecting the basic human rights of the affected populations and for gender transformative programming.⁸

MHM is a recognized public health, social, and educational issue but still, there is a lack of correct information on its management with dignity, as well as how to dismantle the harmful social beliefs and taboos surrounding the topic. According to the MHM Strategy for Cox’s Bazar (2018), 68% and 58% of households reported receiving information related to menstrual hygiene materials management and menstruation respectively. However, a large proportion of women, almost 90%, expressed an interest to receive more information on proper management, because accessing WASH services was a key barrier to managing their menstruation in a dignified manner.⁹ Therefore, UNICEF’s Cox’s Bazar WASH section had and still gives priority to strengthen MHM programming to fulfil girl’s and women’s needs, gaps, and challenges.

■ Strategy and implementation

UNICEF is committed to seeing a world where every girl can learn, play, and safeguard her health without experiencing stress, shame, or unnecessary barriers to information or supplies during menstruation. Women and girls’ access to MHH is a component of gender-responsive WASH services that are acknowledged by SDG 6.2 as a right to menstrual health and hygiene.¹⁰ Recognizing the importance of proper menstrual hygiene practices, a national MHM strategy was developed in 2021 by the local government division of Bangladesh together with other Government Organizations (GOs), Non-Government Organizations (NGOs), Civil Society organizations and UN agencies.¹¹ In the WASH Sector Road Map (2019) MHM was recognized as a key priority area to respond to the special needs of women and girls; consequently, the MHM strategy of 2020 was developed.¹²

³ Research on MHM for women and girls with disabilities Share, Net Bangladesh.

⁴ Ibid.

⁵ Gender Profile No.2 For Rohingya Refugee Response Cox’s Bazar, Bangladesh, March 2019.

⁶ Ibid

⁷ Ibid.

⁸ Ibid.

⁹ MHM Strategy, 2018, Cox’s Bazar WASH Sector.

¹⁰ Guidance on Menstrual Health and Hygiene: 2019, UNICEF.

¹¹ Bangladesh/National Menstrual Hygiene Strategy, 2021.

¹² WASH Sector MHM strategy, 2020.

To mainstream MHM in WASH, the following interventions have been included under UNICEF Cox's Bazar WASH programme considering the current practices, beliefs, and taboos identified through the KAPB survey.

1. **Human resource enhancement:** UNICEF has provided an intensive capacity development programme for implementing partners, and community structures including community-based volunteers. UNICEF also built the capacity of Cox's Bazar's WASH sector through the training of a 110 persons core facilitators team (CFT).
2. **MHM facilitators group formation and capacity building:** At the sub-block level, MHM facilitator groups were formed (comprised of youth and adolescents that were enthusiastic to be involved) to facilitate MHM information among all other girls and women in the respective community in each camp. The facilitator's group has their ToR that includes objective of the group, criteria of the group members, and the roles & responsibilities of MHM facilitators group members etc. This group also work as community catalyst towards safe hygiene practice, breaking the silence and taboos associated with menstruation.
3. **Community engagement towards behaviour change:** People were mobilized through the Clean Camp Campaign-People Led Total Hygiene (CCC-PLTH) approach aiming to grow a positive response for MHM. Additionally, the RANAS (Risk, Attitude, Norms, Ability and Self-regulation) approach was introduced for systematic behaviour changes and evaluating behaviour change strategies that target and change the behavioural factors of a specific MHM behaviour in a specific population.
4. **Ensure MHM-friendly WASH services:** MHM kit items were selected through community consultation and were provided to reproductive-aged girls and women including persons with disabilities through household distribution and distribution points. In response to community feedback and needs, the existing design of WASH facilities is being modified and upgraded such as a gender-segregated latrines with MHM facility, availability of water nearby latrine as much as possible, MHM disposal system (under piloting) and laundry/bathing spaces for cleaning and washing MHM materials.
5. **Introduced participatory monitoring system and community feedback mechanism:** In consultation with the community, a participatory monitoring tool was developed, and a monitoring system was introduced to keep track of the situation. In addition, a feedback and response mechanism system has been established in each of UNICEF's working areas.
6. **Inter-sectoral coordination:** UNICEF has established inter-sectoral coordination between education, protection, and WASH to narrow the MHM gaps and challenges that exist today for a better future.

■ Progress and results

1. **Human resource enhancement:** A 10-person skilled hygiene focal is leading the process of MHM implementation at the partners' level under the guidance of UNICEF Cox's Bazar MHM focal. Around 70 persons (trained staff) are working for improving MHM practices at the ground level. Currently, 555 trained community-based volunteers and sub-block level WASH committees are responsible to provide support for MHM improvement at the community level.

2. **MHM facilitators group formation and capacity building:** Around 4,000 skilled community-based MHM facilitators are currently active within eight camps under UNICEF working areas. They are regularly conducting MHM events with all other girls and women in their respective communities.
3. **Community engagement towards behaviour change:** The community became a leader in making menstruation a normal fact of their life. Community mobilization and awareness-raising activities with the assistance of IEC materials ('The Story of Nur Ana') are now key tools for MHM. A significant positive change in individuals is visible through RANAS approach interventions.
4. **Ensure MHM-friendly WASH services:** 100% of reproductive-aged women and girls are covered by MHM materials including persons with disabilities considering the SDGs' objective to ensure no one is left behind. Gender segregated latrine and bathing space with MHM facilities, water availability for laundry, handwashing materials, etc., are significantly increased. As a result, people were found to be happy.
5. **Introduced participatory monitoring system and community feedback mechanism:** Behaviours' change progress is regularly monitored by MHM facilitators and community-based volunteers. Women and girls are sharing their feedback and complaints on MHM services through an established WASH feedback mechanism in their camp.
6. **Inter-sectoral coordination:** An established MHM working group is in place at the sector level. MHM is a strategic priority for the sectors like education, protection, health, and WASH (in leading position).

The overall outcome:

Women and girls of the Rohingya community are at the centre of MHM interventions, which are becoming a sustainable solution to change behaviours associated with MHM. They regularly monitor progress and act as necessary. WASH service providers are asking MHM facilitators for their demands (like MHM-friendly latrine and bathing space, extra water availability, quality, the quantity of kit items, etc.). They are now one step ahead of traditional taboos aiming to break the silence with the motto of "Let's go with Nur-Ana".

■ **Lessons learned**

- Implementation of context-specific approaches is a strong vehicle for community mobilization and an opportunity to empower individuals (for example, CCC-PLTH is an innovative community engagement approach). A real-life example, relevant in the community is the key triggering point for evolving something new (like the story of Nur Ana is evidence of a girl's empowerment). Self-monitoring is the best way to see their progress and it is ensuring both ownership and leadership in the community people.
- Close collaboration and coordination among and between institutions and sectors (such as WASH, health, education, protection, and shelter) in software and hardware interventions could bring greater success for overall MHM improvement.

- Some challenges to achieving safe and dignified MHM such as health-seeking behaviour; less involvement of boys and males; religious barriers; ensuring light inside the latrine at night-time; lack of space for latrine construction and building MHM facilities; government restrictions for permanent structures; and the proper disposal system of MHM material persists.

■ **Way forward and potential application:**

- The approach of “community-based MHM facilitators group through community engagement” was found to be a very successful initiative. It can be a potential replicable approach in other camps as well as in host community programmes under Cox’s Bazar District and beyond in Bangladesh. It may be an evidence-based knowledge product for UNICEF at the regional and global level in emergency WASH and inclusive gender programming. Scaling up MHM interventions is very much important through girls and women leadership for “making menstruation a normal fact of life” by 2030 and to build a world where no one is held back because they menstruate.
- Continue research to dig out unseen causes of social stigma around menstruation. Consequently, intensive interventions to ensure more engagement of men, boys, and religious leaders in MHM issues will be a better opportunity for achieving equality and girls and women’s empowerment which is now a real-time demand. More and long-term programmes and projects are required with meaningful resource allocations. In addition, continued production of knowledge management on MHM at different levels from local to global will be the best way to break the silence around menstruation.
- Extensive collaboration and coordination should be in place between institutions like government, NGOs, and civil society organizations. Sectoral collaboration is to be strengthened among WASH, health, education, nutrition, GBV protection and required integration within software and hardware interventions.

Related links

- [WASH Response Integrating Protection](#)
- [Clean Camp Campaign \(CCC\)](#)
- [The RANAS approach to systematic behaviour change](#)

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Case Study: **Bangladesh**

#05 | July 2022

PARADIGM SHIFT: THE HUMANITARIAN DEVELOPMENT NEXUS IN COX'S BAZAR DISTRICT, BANGLADESH



■ Background

According to Joint Monitoring Programme, 58.5% have safely managed services for drinking water in 2020. One in five households has to spend more than 30 minutes fetching water from an outside source. The statistics also suggest a serious gap in sanitation facilities; about one-third of the households (31%) use unimproved toilet facilities; 22% of households use pit latrines without slabs, and 3% use a hanging toilet¹³. According to the National Institute of Population Research and Training (NIPORT) 2016 report, 86% of households have a designated place for handwashing. Nevertheless, there is still a lack of knowledge and practice for handwashing. 29% of households have soap and water in the place where household members wash their hands, 8% have water and other cleansing agents (ash, mud, sand, etc.), and the majority (59%) have only water. Overall, 4% of households do not have water, soap, or any cleansing agent¹⁴.

Concerning the human development index (HDI), Cox's Bazar District is the most underperforming in Bangladesh demonstrating the lowest child-related and gender inequalities indicators. Children under 5 suffering from moderate and severe malnutrition stand at 41% while the primary school completion rate stands at 54.8%¹⁵. Almost 51.8% of girls get married before the age of 18 and an estimated 49,000 children

¹³ National Institute of Population Research and Training (NIPORT) 2016

¹⁴ Ibid.

¹⁵ "49,000 children in Cox's Bazaar deprived of education". Dhaka Tribune. 3 August, 2013

are engaged in child labour.¹⁶ Adolescent girls and women are the most affected by these underperforming indicators in terms of education, health, and WASH. Being a coastal district situated at the edge of the Bay of Bengal in the far south-east of Bangladesh, Cox's Bazar intrinsically experiences frequent cyclones and floods. Rising sea levels and increased water temperatures at the Bay of Bengal, and climate change have further increased the vulnerability of the region. In response to the frequent cyclonic events that affected coastal communities, around 2,000 shelters have been built in Bangladesh since 1960. These concrete structures "on legs" allow people to heed cyclone warnings and take shelter from the wind and the flood waters for a few days until the storm has passed and flood waters subsided. Unfortunately, the Water and Sanitation (WatSan) facilities within the community and in these shelters are in very poor condition and get worse during disasters, resulting in health hazards for those seeking refuge during and after the storm.

Due to the lack of proper WatSan facilities, adolescent girls, women, and pregnant women suffer the most. It is estimated that approximately 80% of the shelters lack safe water options and sanitary latrines: the same water is being used for defecation, cleaning, and drinking¹⁷. A survey conducted by Concern Universal confirms the impact that natural disasters have on health both during and after the emergency period. For instance, during the month that cyclone SIDR struck, the incidence of water-borne diseases rose by 33% above average levels.¹⁸ The survey found a similar trend in flood-affected communities. Vulnerable groups including children, women, and the elderly were most affected by water-borne diseases, including diarrhoea, dysentery, and cholera.

Cox's Bazar District has some of the worst WASH indicators in the country according to the 2019 WASH Mapping undertaken by the Department of Public Health Engineering (DPHE) with support from UNICEF and the International Centre for Diarrheal Disease Research, Bangladesh. The sector lacks adequate national budget allocations while the district is regularly affected by cyclones and floods. According to the WASH mapping report, 76% of households have a basic water supply but only 18% have access to safely managed water¹⁹. Only 29% of households use safely managed latrines and 47% of households have handwashing facilities on their premises, whereas only 33% of households practice handwashing and 28% of households dispose of faeces from children under five properly. Women also reported difficulties accessing menstrual hygiene management (MHM) materials as only 39% of women can take up proper menstrual hygiene practices²⁰. Considering these circumstances, the district requires high attention to WASH planning and programming to serve the underserved host community people on regular basis and in times of disaster emergencies.

Apart from the above-mentioned circumstances, the humanitarian situation for Rohingya refugees in Bangladesh remains dire, with some 630,000 newly arrived refugees since 25 August 2017 – of which 58% are children and 60% are women²¹. With the new influx since 25 August, the current total number of Rohingyas who have fled from Myanmar into Bangladesh, coupled with the affected population in communities, has reached a staggering 1.2 million. Of these, there are an estimated 720,000 children in need, making this very much a children's crisis. Weak and vulnerable girls and boys who have been

¹⁶ Ibid.

¹⁷ Community perspectives on water and sanitation towards disaster risk reduction.

¹⁸ Ibid.

¹⁹ According to Sustainable Development Goal 6: "Safely Managed Drinking Water" is defined as water located on premises, available when needed, and free from faecal and priority chemical contamination; and "Safely managed sanitation" is defined as the use of an improved sanitation facility which is not shared with other households and where excreta is safely disposed in situ, or excreta is transported and treated off-site.

²⁰ WASH Mapping and Planning 2019 and 2020.

²¹ Bangladesh Government and UNHCR Rohingya Population Data

uprooted from their homes, separated from their families, suffered trauma, and had their right to education taken away. There is a strong likelihood that this number will change and grow, making an already desperate situation worse. This new influx of refugees not only aggravates the pre-existing protracted crisis of Rohingyas in Bangladesh but also puts additional pressure on the already fragile social and economic structure of Cox's Bazar District.

■ Strategy and implementation

Considering the fragile situation of Cox's Bazar District, UNICEF (by mandate to support the Government plan and directives) allocates 25% of funding to host community people for peacebuilding and maintaining social cohesion. UNICEF in partnership with the Government, NGOs, and the private sector has been supporting district people with improved WASH services to contribute to improving the public health situation. Government counterparts including DPHE, education, and health departments have initiated an integrated WASH programme for the district people with financial support from World Bank, SDC, ADB, and UN and undertook the following strategies and implementation measures:

- (i) Promotion of blended approach including WASH in Emergency (WiE) and development programme to support host community people in times of emergencies and development perspectives.
- (ii) Promotion of Community Approach to Total Sanitation (CATS) in line with UNICEF National Programme following the Government Sanitation Road Map for achieving SDG 6. This includes an extension of community mobilization and engagement in planning and action towards solving their sanitation problems by themselves. This emphasizes sensitization of local government to include this approach within the development plan, taking part in the implementation process, monitoring, and reporting progress.
- (iii) Promotion of Sanitation Marketing (SanMark) in line with the UNICEF National Programme following the Government Sanitation Road Map for achieving SDG 6. This includes engaging the private sector and developing the capacity of location sanitation entrepreneurs to increase supplies of diverse sanitation materials and options.
- (iv) Promotion of hygiene messages to change behaviours including MHM among reproductive-age women.
- (v) Promotion of safe drinking water supply along with water quality facilities and promotion of water safety plan (WSP) in line with UNICEF National Programme following Government Water Road Map for achieving SDG 6.
- (vi) Promotion of WASH in Institutes:
 - WASH in Schools (WinS) follows a three-star approach including infrastructural improvements as well as hygiene promotion in line with national standards and building the capacity of the school committees for operation and maintenance.
 - WASH in Health includes infrastructural improvements as well as hygiene promotion in line with national standards and building the capacity of the health staff for operation and maintenance.

- (vii) Supporting internally displaced people (IDPs) aligned with government priority with improved WASH services, who have been displaced to other locations due to disaster effects since over the decades.
- (viii) Supporting government duty bearers with resource allocation for ensuring wider coverage, coordination, reporting, monitoring, and logistical aspects for institutional development towards system strengthening.

■ Progress and results

Over the last three years, UNICEF has demonstrated the following progress and results:

- 650,000 people (344,500 males, 305,500 females, and 6,500 PwDs), which represents 25% of district people have access to safe water supply through the construction of 1,250 hand pumps, and 3 large diameter water networks, 10 mini water networks and rehabilitation of 16,000 existing hand pumps.
- 400,000 people (212,000 males, 188,000 females, and 4,000 PwDs), which represents 15% of district people have access to improved sanitation through the construction of 33,000 new latrines (households' latrines) and rehabilitation of 32,000 existing latrines. In addition, UNICEF created 600 open defecation-free (ODF) communities followed validation and certification by the local government and administration.
- 600,000 people (318,000 males, 282,000 females, and 6,000 PwDs), which represents 23% of district people received key hygiene messages for improving their behaviours and 133,000 reproductive-aged women with menstrual hygiene management.
- Through the promotion of WASH in Schools, 145 schools supporting 72,500 students (37,700 boys, 34,800 girls, and 725 PwDs) have access to safe water and 25 health centres supporting 150,000 community people (79,500 males, 70,500 females, and 1,500 PwDs) have access to safe water while seeking health support at centres through the promotion of WASH in Health.
- 16,000 internally displaced people (IDPs) in Cox's Bazar have improved WASH services.
- 655,647 people (307,681 males, 347,966 females, and 6,556 PwDs) benefitted from WASH services during seasonal emergencies and COVID-19.

Overall UNICEF ensured WASH services among 25% of the district people with the use of safe drinking water, 15% of people with improved sanitation services, 23% of people with improved hygiene behaviour including menstrual hygiene management (MHM) along with reproductive-age women, and 25% of people received emergency WASH services in times of COVID-19 and seasonal floods in the last three years. Overall, through the WASH Programme, UNICEF integrated institutional WASH, DRR, and climate change towards contributing to more resilience features in WASH, which require further investigation for adequate integration. Around 75 WatSan Committees have been activated and are functional through the UNICEF-supported WASH programme. UNICEF has been supporting government counterparts including DPHE as well as the education and health departments to plan and implement the WASH programme for the

fulfilment of WASH gaps identified through the UNICEF commissioned WASH Mapping and Plan survey in 2020.

■ **Lessons learned**

- Extensive mobilization and motivation can change the mindset and sensitize positively towards development. For instance, the implementation of a community approach for total sanitation (CATS) and sanitation marketing (SanMark) has strongly been challenged by the administration, local government, and community people as UNICEF has been supporting Rohingya Refugee. Therefore, both administration and host community people have a similar expectation to receive services at no cost. Here the difference between humanitarian support and development aspects has been the key trigger for motivation as refugees are landless and require humanitarian support.
- Women's leadership can play a vital role in community development as UNICEF-supported projects created community leaders where around 70% were women. As women pay more effort and attention than men and are more powerful to motivate people to create ODF communities.
- Local government-led programmes can create better results. People listen to their government and are responsible to follow their roles in government directives.
- The sanitation marketing approach contributed significantly towards achieving ODF as it increases supplies of sanitation options and materials through private sector engagement.
- Hygiene promotion boosted sanitation demand in the sanitation marketing approach, which has been a missing part of the typical sanitation marketing approach.
- Handwashing matters in times of COVID-19 as more than 80% of households in CATS and IDP locations established low-cost handwashing devices on their own.

■ **Way forward and potential application:**

- Extensive replication of CATS and SanMark approaches following National Sanitation Road Map to achieve SDG 6.
- Connect Cox's Bazar WASH Progress with the national database.
- Initiating research on inclusive WASH and disaster-resilient aspects and developing an inclusive WASH programme as well as triggering advocacy and influencing.
- Initiating urban WASH project/s considering the poor WASH situation of the municipality.
- Initiating knowledge management on camp-based WASH interventions and integrating them into the district WASH Development Plan and beyond.

Related links

- [Bangladesh Maternal Mortality and Health Care Survey \(BMMS\) 2016: Final Report](#)
- [Community Perspectives on Water and Sanitation towards 'Disaster Risk Reduction' \(DRR\)](#)
- [49,000 children in Cox's Bazaar deprived of education](#)

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Case Study: **Bangladesh**

#06 | July 2022

ROHINGYA COMMUNITIES BENEFIT FROM PIPE WATER DISTRIBUTION NETWORKS IN THE CAMPS OF COX'S BAZAR, BANGLADESH



■ Background

Globally, at least two billion people use a drinking water source contaminated with faeces²². As result of microbial contamination with faeces, it poses the greatest risk to drinking-water safety. In 2010, the UN General Assembly explicitly recognized the human right to water and sanitation. Everyone has the right to sufficient, continuous, safe, acceptable, physically accessible, and affordable water for personal and domestic use. Sustainable Development Goal (SDG) target 6.1 calls for universal and equitable access to safe and affordable drinking water. The Bangladesh government has a strategy to meet the SDG water target. The right to safe water is recognized as a foundation of all other human rights. Bangladesh has made significant progress regarding universal access to improved water sources but access to basic safe drinking water is still low at 39.2 per cent (Joint Monitoring Programme, 2020).

Cox's Bazar District has some of the worst water, sanitation, and hygiene indicators in Bangladesh according to the 2019 WASH Mapping undertaken by the Department of Public Health Engineering (DPHE) with support from UNICEF and the International Centre for Diarrheal Disease Research, Bangladesh. The sector

²² World Health Organization. (2022). [Drinking water](#).

lacks adequate national budget allocations while the district is regularly affected by cyclones and floods. The humanitarian situation for Rohingya refugees in Bangladesh remains dire and as per the Joint Government of Bangladesh-UNHCR Population Factsheet of 30 April 2022, the total Rohingya population was 925,380 individuals and 192,257 families living in the camp settlements in two Upazilas of Cox's Bazar. Within them, there are newly registered forcibly displaced Myanmar nationals (888,766 individuals and 188,960 families) living in two sub-districts of Cox's Bazar (Ukhia and Teknaf Upazilas). In the Rohingya refugees' camps, 52 per cent are children, 52 per cent are women, 48 per cent are male, 1 per cent are persons with disabilities, and 4 per cent are older persons²³. Of these, there are an estimated 613,966 children in need, making this very much a children's crisis. Weak and vulnerable girls and boys who have been uprooted from their homes, separated from their families, suffered trauma and had their right to education taken away. There is a strong likelihood that this number will change and grow, making an already desperate situation worse. This new influx of refugees not only aggravates the pre-existing protracted crisis of Rohingyas in Bangladesh but also puts additional pressure on the already fragile social and economic structure as well as water and sanitation services of Cox's Bazar district.

■ Strategy and implementation

In Bangladesh, UNICEF is working with the Government to provide sustainable safe water access to 24 million people by 2030. Within this commitment, there is a Joint Response Plan for Rohingya Humanitarian Crisis (JRP) in Cox's Bazar district. In June 2018, it was decided among a group of experts from IOM, UNHCR, UNICEF, DPHE, and Oxfam that the water distribution network would consist of a few individual systems for water supply.

As the lead actor, the DPHE has developed a master plan for 26 camps consisting of 138 Water Distribution Zones (WDZs). Following the WASH sector Master Plan, UNICEF has set a target to install 46 WDZs for the construction of pipe water distribution networks in seven camps.

UNICEF's WASH Section partners (NGO-Forum for Public Health, CARE Bangladesh, World Vision Bangladesh, BRAC, Asia Arsenic Network, Village Education Resource Center, Dushtha Shasthya Kendra) implemented all pipe water distribution networks at the ground level and partners are regularly operating and maintaining the pipe water networks to keep them functional while providing regular water supply to the camps' populations.

The major steps of pipe water distribution network implementation in the Rohingya Refugee camps are described below:

- **Implementation step 1: Finalization and government approval of the technical drawing and design:** In the first step of implementation for the Solar Power Pipe Water Distribution Network, UNICEF and responsible implementing partners prepared a detailed drawing, design, and bill of quantity for each of the specific sites which were reviewed by UNICEF's Technical Expert and was provided with support. In this phase, a rigorous sharing meeting and discussion happened with Cox's Bazar District Level Government. The DPHE finalized the drawing and design and submitted it to the Refugee Relief and Repatriation Commission (RRRC) office in Cox's Bazar (the administrative authority of the Government). RRRC staff members reviewed the documents, visited proposed sites, made recommendations, and provided approval to implement the project.

²³ Bangladesh Country Office. (2022). [Humanitarian Situation Report No.60](#)

- **Implementation step 2: Borehole drilling and pump house construction:** In this step, UNICEF's partner started the borehole drilling as per the approved technical design. During the borehole drilling process, UNICEF officers visited the sites of the camps to ensure quality work. After the successful completion of borehole drilling and the determination of a sufficient water source in the aquifer, UNICEF's partner constructed a pump house to place the pump with other fittings, a backup generator, and an auto chlorination dosing machine and other necessary equipment.
- **Implementation step 3: Water tank basement construction:** After the completion of borehole drilling, construction work of the water tank basement was commenced. The heavy tank basement's structures were constructed with reinforcement cement concrete (RCC) for the placement of large size water tank.
- **Implementation step 4: Installation of water reservoir tank:** After the construction of the water tank basements, a large-scale water reservoir tank with a water capacity of 95,000 liter (95m³) was installed (on top of the hills to maintain gravitational flow system). This was done to supply the water from the reserves tank to the pipelines through gravitation flow system.
- **Implementation step 5: Instillation of solar panel:** In some cases, in parallel with the other construction works of the water distribution networks, a solar panel was installed at the selected sites. The main purpose of the solar panel's installation is to produce/generate electricity which is to be used for pumping water from the borehole.
- **Implementation step 6: Established pipe water networking system and construction of tap stand in community place:** Finally, an established pipe network connection was connected from main water reserve tanks. The tap stands are the ultimate water collection points from where refugee peoples are collecting water.

■ Progress and results

Over the last four years, UNICEF Bangladesh has made enormous progress in the provision of WASH services for refugees in partnership with the government-supported administrative authority (RRRC and DPHE). UNICEF's implementing partners have been working for a long time to construct a piped water distribution network in the seven camps. A total of 47 pipe water distribution network systems have been constructed in the seven Rohingya Refugee camps under Cox's Bazar and provided water supply to the targeted Rohingya Refugee people.

The access to safe water supply in the mentioned seven camps has increased from 10% (in 2018) to 73% of the population (in 2022) through the pipe water distribution networks. UNICEF's WASH Section in Cox's Bazar has the Humanitarian Performance Monitoring (HPM) target to achieve 250,000 people in humanitarian situations accessing safe water for drinking, cooking, and personal hygiene. As per a third-party monitoring report (in April 2022) 175,000 people have been reached through 47 pipe water distribution networks.

This piped water distribution network construction has created a positive social impact on women and adolescent girls in the targeted refugee camps. From the household survey report of a third-party monitoring agency, it was found that mainly adult women (55%) collected water from the source, followed by adolescent girls and boys (12%). The report also highlighted, tap water as the primary drinking water source in eight camps (71%). Time needed to reach water point in eight camps was recorded at less than 5 minutes (69%), 5 to 30 minutes (30%) and 30 to 60 minutes (1%). It was also recorded that only 8% of households treat their water before drinking compared to 73% of households who did not, as they

consumed water directly from taps stand (which has been treated by the pipe water distribution network) and 50% of households were satisfied about to access water.

Through a community engagement facilitation process, WASH Committees were established in the sub-block level of the camps and UNICEF's implementing partner is strengthening their capacity for operation and maintenance and monitoring of WASH facilities. As part of their responsibility and the community ownership building process, committees are taking part in the operation and maintaining the pipe water distribution networks in the camps. Furthermore, skilled caretakers are involved in each of the pipe water distribution networks. Additionally, this intervention has created job opportunities for the Rohingya refugees. Implementing partners of UNICEF are ensuring a bacteria-free water supply through the automatic chlorine dosing systems which were installed and used, and residual chlorine is being regularly monitored at different water points by testing with field kits. As a result, people are getting safe drinking water through this water technology.

■ Lessons learned and way forward

The pipe water distribution network can be a sustainable model in bad weather conditions (like heavy rainfall and storms) in the context of refugee camps. More replication of this water supply technology model is appropriate which requires government approval.

UNICEF Bangladesh can take the initiative to do qualitative research on how this water technology can make a social impact on women and adolescent girls of the Rohingya refugee community and related water supply services. In addition to this, qualitative research could be conducted to assess the health impact related to water-borne diseases within the UNICEF-supported camps for further exploration.

This technology can be replicable not only in an emergency context but can also be embedded in a national programme and other countries as this has proven to be effective to serve larger groups of the population in special humanitarian settings.

Related links:

- [Rohingya's access to piped- water](#)
- [Cox's Bazar District WASH Mapping and Participatory WASH Plan](#)
- [Joint Response Plan for Rohingya Humanitarian Crisis \(Mid-Term Review\)](#)

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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.²⁴

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 Ukhia 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 wells out of around 3,000 tube wells as the water level in the areas has dipped, according to data from the

²⁴ [The 30 largest and most populous countries \(worlddata.info\)](https://www.worlddata.info)

local Union Parishad (UP).²⁵ 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 2017.²⁶ 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.²⁷ Among them, only 8% of HH have access to a safely managed water supply and similarly, the other 90% have a basic water supply.²⁸ 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.²⁹

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, consultations, and strategic planning, which resulted in the prioritized Joint Response Plan, to respond to

25 Akhter, M., Uddin, S. M. N., Raza, 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>

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

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

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

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

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.³⁰ 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.³¹

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.

■ 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

³⁰ <https://reliefweb.int/report/bangladesh/2019-joint-response-plan-rohingya-humanitarian-crisis-january-december-enbn>
³¹ <https://rdcu.be/cOJ4x>

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](#)

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Case Study: **Bangladesh**

#08 | July 2022

INTER-COMMUNITY BRIDGING: AN INDICATOR OF SOCIAL COHESION IN ROHINGYA REFUGEE CAMP, COX'S BAZAR



■ Background

In August 2017, thousands of Rohingya flee their homes in Myanmar and arrived at Cox's Bazar, Bangladesh. As of April 2022, there were 925,380 refugees accommodated in 34 camps around the towns of Ukhiya and Teknaf. Rohingya refugees and host communities in Cox's Bazar live with inadequate water and sanitation facilities resulting in adverse health impacts. Besides this, such huge influxes of refugees accelerated the depletion of water resources in the area. Cox's Bazar is already a geographically challenging area to explore groundwater or other sources of water.

Globally, studies have demonstrated that a massive refugee influx has a huge impact on the water resources³² and this has been witnessed in Cox's Bazar as well. The sudden rise in water demand in Ukhiya union has adversely affected water security for both refugees and host communities. Approximately 15 million litres of groundwater are being drawn each day, putting the camp and surrounding area under threat of water scarcity in the future.³³

Climate trends significantly impact water source availability in camp areas as water source dries up in the summer. A study³⁴ shows that the water source significantly decreases from January to March, as the soil

³² Water security challenges in Rohingya refugee camps of Cox's Bazar, Sustainability 2020.

³³ Joint Response Plan for Rohingya Humanitarian Crisis, 2018

³⁴ Water security challenges in Cox's Bazar

is much drier in this period. There is more evapotranspiration during May, which leads to loss of available water. Water availability is sufficient during July and onwards due to precipitation. This fluctuation in water availability affects the water supply to refugees and the host community.

Due to limited water availability in the area, the quality of living is compromised. Refugees and the host communities face this problem as both communities share the same water source. This increases the chance of inter-community conflict. Exclusion from water supply services may give rise to violence as well.

Around 70 per cent of shallow tube wells and dug wells were already drying and experienced a lowered water table as the area has limited surface water. Refugee camp number 22 shares surface water with the host community which not only threatens water security but food security as well. There are many non-functional hand pumps in the camps as the water table has gone down and re-adjusting/reinstalling pipes will be expensive.

Refugee camps are divided into blocks and sub-blocks. Cox's Bazar UNICEF works in eight camps, serving 256,182 refugees (as of the end of April 2022). Besides this, UNICEF is supporting the host community of respective camps.

This case study aims to explore UNICEF implementing partners' strategy to prevent inter-community conflict and maintain social cohesion. Such strategies may be useful in preventing inter-community conflict that may arise while sharing the same resources and may help in strengthening social bonding.

■ Strategy and implementation

UNICEF's Global Strategy (2022-2025) recognizes access to water and sanitation are not only rights in themselves but also contribute to other sectors such as health, nutrition, education, etc. The Strategy points out to "do no harm" and ensures that interventions must be conflict-sensitive and non-discriminatory. The Global Strategy (2022-2025) states that UNICEF will design and implement conflict-sensitive programmes that contribute to social cohesion and peace – a unique and valuable role that WASH programmes can play in addressing the root cause of conflict. Additionally, UNICEF has proposed a Framework for WASH Sector Resilience in Fragile and Conflict-affected Contexts, designed to prevent and reduce disaster while achieving the SDGs, particularly SDG 6.

In Camp 22, UNICEF supported the installation of a surface water treatment plant to meet the water demand of refugee camp number 22. The source is just outside the camp in the host community's territory. The same source is used and shared by the host community and refugees for agriculture and drinking purposes respectively.

UNICEF installed a water treatment plant through OXFAM and local implementing partners. The treated water is supplied throughout the camp and a few tap points are provided to the host community. The project included building and operating a programme.

■ Progress and results

1. UNICEF through OXFAM organized a community consultation meeting with host community people in presence of a government representative (i.e., Camp in Charge, Union chairman and other community leaders). This ensured meaningful community participation in decision-making. The government authority and host community leaders jointly agreed to tap surface water and supply it as needed. It was agreed that host community members should get a share of treated water and employment opportunities during the construction and operation phase of the plant. UNICEF and OXFAM started the emergency response programme in Camp 22 in October 2017.
2. Initially, UNICEF and OXFAM started supplying safe drinking water through four tap stands. To meet the survival requirements during emergencies, water trucking was the suitable option to supply water. It then tapped water from two locations through Roikhong and Mirjachara canal which has one and two dams respectively. Water from these three dams is channeled to Surface Water Treatment Plant (SWAT) on a routine basis. Roikhong channel is the primary source for the host community and the remaining two as secondary as those are situated in the forest area. It installed a high-tech SWAT which consists of the pumping station, Lamella filtration, settling tanks, filtration, chlorine dosing, reservoir tanks, distribution tanks and distribution system/network. This treatment plant resulted in improved quality of drinking water. The treatment plant supplies water to 22,746 refugees and host community people. 101 tap stands are set for the camp area whereas 5 tap stands are allocated for the adjacent host community. The total water supply capacity is 460,000 to 480,000 liters per day. This includes water supply twice a day and each flow tap serve less than 70 persons and is within 100 meters' distance from the user's residence. The total pipe network within the camp is 15 KM.
3. UNICEF and OXFAM avoided possible inter-community conflict that could have occurred (due to sharing the same water source) by ensuring sharing of safe drinking water and job opportunities to host community people.

■ Lessons learned and way forward

- Stakeholders' involvement is important in the decision-making process
- Ensuring the "Leave No One Left Behind" strategy
- Inclusion in services or benefit-sharing
- Ensuring access to services by all community members
- Conduct a conflict sensitivity assessment and stakeholder mapping
- Explore conflict triggers and correlate them with water resource sharing.

■ Way forward and potential application

UNICEF is now supporting the operation and maintenance of the water treatment plant through its implementing partner under a new project to continue its support to provide safe water to the refugee and host communities. UNICEF will continue its support for the smooth operation of the water treatment plant.

The Rohingya refugee camps in Ukhiya still face water shortages during the dry season and may require water trucking. However, the reservoir system developed under this water treatment plant can support the water supply during the hardship. Preventing and ending conflicts is linked with inclusive approaches. Likewise, constantly navigating the political situation and responding accordingly can be applied to other similar contexts.

Related links:

- [Water, Sanitation, and Hygiene Assessment: Dry Season Follow-up.](#)
- [Sustainability 2020. Drinking Water Security Challenges in Rohingya Refugee Camps of Cox's Bazar, Bangladesh.](#)
- [UNICEF, Conflict Sensitivity and Peacebuilding in UNICEF, Technical Note.](#)

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Case Study: **Bhutan**

#09 | July 2022

ACCELERATION TOWARDS OPEN DEFECATION FREE (ODF) BHUTAN AND 100 % ACCESS TO POUR FLUSH TOILETS



■ Background

The Royal Government of Bhutan and in particular, the Ministry of Health (MoH) has been concerned with the high prevalence of sanitation and hygiene-related diseases. This was largely due to low coverage of hygienic pour-flush toilets; high prevalence of inferior quality pit toilets (without slab/cover) which were unsanitary and unhygienic; and households without toilets. The Bhutan Multiple Indicator Survey (BMIS) in 2010 reported that only 58% of the overall population lived in households with access to improved sanitation facilities. By area, it is 77.9% for urban households and 51% for rural households. Also, UNICEF and WHO's Progress on Drinking Water and Sanitation 2012, reported rural households with access to hygienic toilets at 54%. As per the Annual Health Bulletin, households without toilets (open defecation) have consistently remained at about 4% since 2010 for a decade and now hovers around 2%.

Based on this fact, the MoH endorsed the implementation of the Rural Sanitation and Hygiene Programme (RSAHP) in 2010, which is a community-led, demand-driven approach designed by the Public Health Engineering Division (PHED) with technical support from SNV to improve the sanitation situation in the rural communities.

■ Strategy and implementation

The RSAHP approach has major elements adopted from SNV's comprehensive and area-wide Sustainable Sanitation & Hygiene for All (SSH4A) and some components from UNICEF's Community Action to Total Sanitation (CATS) and Community-Led Total Sanitation (CLTS) approaches. This strategy aligns with the achievement of SDG Goal 6 on sanitation and hygiene by 2030.

The RSAHP was rolled out in all 20 of Bhutan's districts in phases, starting with districts which have a high percentage of ODF/pit toilets, population, stunting, poverty and diarrheal cases. To support the smooth implementation of RSAHP, the following documents of the Royal Government of Bhutan are in place:

- National Sanitation and Hygiene Policy 2020
- Rural Sanitation and Hygiene Guidelines 2014
- Rural Sanitation and Hygiene Strategy 2015-23
- Training manual for Toilet Construction 2012
- Last-mile and Post ODF Strategy 2020
- Guidelines for Faecal Sludge Management for Rural Sanitation and Hygiene Programme 2019.

The implementation took multiple interventions in the 2-year programme cycles in each district³⁵, which are listed here:

- District level RSAHP inception workshop with district officials and local government leaders
- 2-day triggering workshop conducted in all 20 districts
- Mason training with the distribution of 1-pager DIY (Do-It-Yourself) on toilet construction
- Creating linkages of local leaders/health officials with district SMEs (Small and Medium Entrepreneurs)
- Block and district level mid-term and final progress review meetings
- Institute ODF verification protocol/process
- Follow-up and joint monitoring.

■ Progress and results

Currently, the RSAHP implementation is ongoing in four districts (Bumthang, Gasa, Paro and Thimphu) and with the final stages of the programme cycle. The implementation was delayed due to the pandemic as there were several lockdowns, restrictions in conducting the triggering workshops, health staff were engaged in responding to the pandemic and travel restrictions for follow-up and monitoring.

As of today, RSAHP has been implemented in all 20 districts and the following progress has been achieved:

- Completed district-level RSAHP inception workshop with district officials and local government in all 20 districts

³⁵ RSAHP implementation started year wise since endorsement: 1. Lhuntse in 2010, 2. Pema Gatshel in 2012, 3. Mongar and Samdrup Jongkhar in 2014, 4. Wagdue and Samtse in 2015, 5. Tashiyantse in 2016, 6. Trongsa and Tsirang in 2017, 7. Sarpang in 2018, 9. Chukha and Haa in 2019 and 10. Thimphu, Bumthang, Haa and Paro in 2021

- Approximately 3,075 clusters (90,250 households) reached through 2-day triggering workshops in all 20 districts
- About 37 (including 3 targeted female cohort) masons training completed with the distribution of 1-pager DIY on toilet construction
- Completed both block and district level mid-term and final progress review meetings, from the validation of data done during the block/district review meetings in all 20 districts, the national pour-flush toilet coverage stands at 91% and households without toilets at 1%
- Recognition and certification of ODF and 100% pour-flush toilet coverage block and districts during World Toilet Day
- Implementation of last-mile and post-ODF activities.

As of 2021, 63% of the communities (129 blocks out of 205 blocks) and 8 dzongkhags (districts) of the total 20 districts have achieved ODF status and improved sanitation coverage.

Further, a line listing of all households for 20 districts was conducted with support from district health officials to understand the numbers and the situation of households with unimproved and no toilets to implement the Last Mile: Leave No One Behind strategy.

The RSAHP has achieved increased access to improved toilets (from 51% in 2010 to 91% in 2022).

■ Lessons learned and way forward

The following are the lesson learnt:

- High sanitation coverage can be achieved without subsidy provided to the households, however, 5 to 10 per cent of households falling under the last mile (poverty, single female households, PWDs, elderly etc.) require support in the construction of the toilets from block and districts
- The ownership of their toilets can be ensured by involving them (in this case involved in construction)
- Partnership building over time with PHED, SNV and CSOs
- With the pandemic setting in, the RSAHP became less of a priority.

■ Way forward and potential application

Significant progress has been made through this programme, however, 1% of the population still practice open defecation in 12 districts and 9% of households do not have pour-flush toilets. In addition, other emerging issues need to be considered such as hygienic usage, operation and maintenance, creating access for persons living with disabilities, menstrual hygiene management, handwashing with soap, faecal sludge management, climate change and water adequacy. To address these emerging issues the MoH, SNV and UNICEF have initiated the implementation of the Last Mile: Leave No One Behind strategy and post-ODF activities. To accelerate the implementation, the executive order was issued from the MoH to all 20 districts to achieve ODF and access to 100% pour-flush toilet coverage by year-end (2022).

The RSAHP approach can be implemented in similar geographic areas like Bhutan where the approach has not just achieved ODF but also access to improved sanitation without subsidy.

Related links and Documents:

- [Documentation of Best Practices for Rural Sanitation and Hygiene Programme \(RSAHP\)](#)
- [National Sanitation and Hygiene Policy Document](#)

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Case Study: **India**

#10 | July 2022

A MENSTRUAL HYGIENE MANAGEMENT WORKING COMMITTEE FORMED IN THE ANDHRA PRADESH STATE IN INDIA IS CREATING A MODEL THAT NEEDS TO BE REPLICATED



■ Background

Menstrual hygiene management (MHM) relates to how girls and women manage their monthly menstruation and require access to information about menstruation, clean and safe menstrual absorbents, amenities, and facilities such as toilets and water, and waste management to maintain hygiene. MHM in general is poor in India due to a low level of knowledge and many misconceptions about it. In recent years, MHM is gaining momentum at all levels of society. The central government has been viewing the issue with a lot of importance by inculcating it as an integral part of the Swachh Bharat Mission (SBM) and thereby also linking it to the various Sustainable Development Goals (SDGs). Several programmes and projects have been devised by the central and state governments to promote menstrual hygiene thereby highlighting the issue and bringing it to the surface.

One such state government which has taken numerous steps to promote menstrual hygiene has been the state of Andhra Pradesh. In the state of Andhra Pradesh (AP) MHM comes under different departments thereby allowing them to have wider coverage in urban as well as rural areas. For the past many years, the state has introduced various schemes – pad distribution as well as awareness schemes – but has always

witnessed failure where implementation was concerned. Instead of utilizing the opportunity for wider coverage, the different departments ended up expecting the other departments to intervene and took to fulfilling demands that they considered important and cost-effective. Therefore, this resulted in continuous failure especially in reaching out to a wider section of society.

To achieve the above there is a need to recognize the issue as a cross-sectoral issue which involved the participation of the various stakeholders for its wholistic implementation. Though each line department in states and districts has been given its role in ensuring MHM, this is achievable only when all these departments come together for the purpose. Rather than duplicating the activities and schemes, there was a need to collaborate and expand together. According to the National Family Health Survey (NHFS) 5 (2021), the number of women (age 15 to 24) using sanitary pads in Andhra Pradesh has gone up to 85% as compared to the 67.5% in the previous NHFS 4 (2016).

■ Strategy and implementation

Based on the above observations, it was felt that there was a need for developing a framework to reform the policies. Two strategies were devised by UNICEF and Andhra state:

1. Formation of MHM committee:

A working committee on MHM was formed in the state of Andhra Pradesh under the facilitation and guidance of UNICEF. The MHM working committee has a total of eight major line departments (namely the Panchayat and Rural Development (PR&RD); Rural Water Supply (RWS); State Swachh Bharat Mission (SSBM); Tribal Development Department (TDD); Mission for Elimination of Poverty in Municipal Areas (MEPMA); Health; Women and Child Development Department (WCD); and the Education Department. This Andhra Pradesh state MHM working committee is a distinctive kind as it has all the line departments working on and towards women's health and hygiene. The working committee was formed in 2019 with its first inter-departmental meeting held in February 2019. The key objective of this committee was to ensure the effective implementation of various programmes, policies, and existing guidelines related to MHM by a coordinated effort including all the line departments. The overall aim of this committee was to bring collaboration among all the line departments for implementing MHM programmes in the state in a coordinated way. This MHM working committee was to provide a common platform to elucidate all the work that is being done, to identify gaps and address challenges collectively, to come forward with innovative solutions, share each department's experience and derive learnings from the same. The working committee was to ensure there is no duplication of work and move towards addressing issues within the MHM arena which need special focus.

2. Supporting MHM activities in the state:

On the activity front, pad availability along with incinerators for proper and safe disposal is being ensured to all girls in government schools with a special focus on residential schools by the Education Department. Most schools have a sanitary vending machine installed on their premises to ensure access to sanitary pads anytime and in privacy. In a few schools where sanitary pad vending machines are not yet installed, monthly

carton of sanitary pads is supplied to the school. All the toilets are provided with a running tap water facility and a dustbin in case of non-availability of incinerators in the school.

Numerous efforts are also taken at the community front to ensure effective menstrual hygiene management at the household level as well. The Panchayati Raj Department and the MEPMA play a major role on this front. Each household in the district is given a menstrual wastebin to segregate their menstrual waste which is burnt in the incinerators installed in each of the panchayat sheds created in each panchayat. Knowledge management and capacity building have also been made an essential component of MHM and in this regard, each department under the wing of the working committee has taken measurable steps in trying to ensure the proper implementation of the same within their purview. Peer groups have been formed in schools and colleges and have been imparted training on MHM. Training at large scales has been conducted for all government schoolteachers and students. Out-of-school adolescents are educated on puberty and menstruation. An *Anganwadi*³⁶ worker is allotted to every Kasturba Gandhi Balika Vidyalaya (KGBV) residential school to have her address all the adolescent-related queries and problems faced by the girls in the school and offer counselling services wherever required. MHM training is also provided in large batches to the frontline workers to enable them to handle and ensure MHM in the community.

■ Progress and results

Regarding the various activities implemented by the working committee, all the schemes and activities implemented by the various departments are now commonly discussed, deliberated, and finally implemented. Each department now works in its arena and implements its departmental schemes, yet it has been able to garner good response and participation due to the role of the other departments and stakeholders in the schemes and policies as well.

The MHM working committee is a unique model in Andhra Pradesh as it is a platform where the different departments come together for not just discussions and deliberations but they also to debate, get feedback and revise and revisit their strategies, and schemes, IEC materials, implementation strategies, etc.

Recently budget allocation has been included in these discussions which are important for the committee to plan their work together, moving forward. In India, one can see many working committees on WASH (and some on MHM too) which exist but are not very active in functioning and over the period they usually cease to exist (only in name). In many instances, state working committees are more of a rarity due to the complex systems, lack of budgets, policies, and lack of inter-departmental collaborations. In villages and districts, these are more of success due to the smaller size of population and simple systems in places.

This working committee is one such rare example of success which has not just been able to establish its identity within the state but has also been able to implement activities and create a pool of resources people and materials about MHM.

³⁶ Anganwadi is a type of rural childcare centre in India, providing basic health care in a village and is a part of Indian public health care system.

The working committee has been able to organize three successful events of Menstrual Hygiene Day from 2019 to 2022 where it has been able to widen its coverage and reach more people and stakeholders each year.

The state government has time and again applauded this initiative and has given them recognition as well. The working committee has also been able to develop numerous IEC materials for various segments of the society within each of its departments. Now the IEC materials are all consolidated, and the working committee has a resource pool of the same which is accessible to all these departments who can use it when required. Similarly, as the working committee has held many capacity and knowledge-building workshops, they now have pools of resource trainers and thereby do not have to rely on any external expertise on the subject.

■ Lessons Learned

The MHM working committee looks like a model structure that can be replicated in other states. Successful implementation through collaboration is a lesson learnt by all within various sectors and the MHM sector bears the same testimony. The MHM working committee still has a long way to go and has just started its initiations but one can see its wave of success from the early stage. Experience sharing and learning from each other's work is the right direction the committee has adopted.

1. Along with activity sharing and planning, budget allocation and sharing to understand each department's pre-planned activities and accordingly change their strategies and fund allocation should also be prioritised under different heads which would lead to less duplication. This would certainly be enhanced with the proper programme and fund planning.
2. Though certain stakeholder departments have taken a leading role, there is a need for all the departments to also understand and assume their roles. Some departments do have a prominent role while others tend to take a back seat. There is a vital need for each department's role to be drawn and specified as this will enable equal active participation by all paving way to equal ownership of the committee, programmes and activities.
3. Additionally, there is a need for more technical assistance and capacity building on the issue with a special focus on peer group learning extensively. Prioritization towards capacity building and knowledge enhancement is extremely necessary. Creating access to products and facilities without proper capacity building might result in total failure therefore thrust should be laid equally if not more on the need to create a resource team and create more peer group members in schools and colleges.
4. There is a need for the nomination of representatives from each department to be consistent. Though the working committee meetings are held regularly and representatives from each department are sent to make and participate in the decision-making process, the representatives (many at times) keep changing for each meeting. This leads to a lack of proper discussions as the representative many times must be made aware of the earlier progress which takes away a

considerable amount of time. Similarly, due to lack of participation earlier, they are also not in a position to commit to targets and processes which delays the overall proceedings.

5. One of the major lessons learnt is that it's possible to bring all the working departments together when a common vision and objective are formed. It is a difficult process, but it is achieved when everyone sees their role, effort and ownership in an initiative and that helps in bringing everyone together with a focus on bringing about a change where everyone shares the credit.

■ Way Forward

1. The working committee has now adopted a block and is now making it into a model block which will be completely menstrual hygiene friendly and would have all the menstrual hygiene friendly components which will ensure that girls and women are able to manage their menstruation in a safe and dignified manner.
2. The working committee is also now progressing on working toward creating a sustainable MHM model which includes them exploring good, affordable, environment-friendly, menstrual hygiene products as well as finding an alternate environment-friendly disposal system for the state. This is a perfect example of a working committee moving toward the right way.
3. Taking Andhra Pradesh MHM working committee as an example, the neighbouring state of Karnataka has also formed its state MHM working committee and is in the process of implementing a similar strategy. Tamil Nadu state is also in the process of forming a similar MHM working committee, learning, and initiating from the existing one. Assam is also another such state which has caught on to the learnings from this working committee and has formed a district-level MHM working committee to start collaborative MHM initiatives in their state.
4. The Andhra Pradesh working committee has also developed and released some uniform IEC materials on MHM ranging from educational MHM videos to posters for dissemination of awareness.
5. The MHM working committee in Andhra Pradesh is working towards becoming a successful model structure that can be replicated in many other states. Successful implementation through collaboration is a lesson learnt by all within various sectors and the MHM sector bears the same consequence. The MHM working committee still has a long way to go and has just started its initiations but one can see its wave of success from the early stage. Experience sharing and learning from each other's work is the right direction the committee has adopted and this will be enhanced by programme and fund planning and execution.
6. Menstruation is a taboo subject around the world and manifested strongly in India because of the associated traditional practices and customs governed by rigid beliefs and practices. Eradicating such a deep-rooted behavior has to be a joint and concerted effort. The formation of such a working committee will help to display this particular aspect and will enable the mirroring of such

working committee in other states, thus leading to effective menstrual hygiene management in our country through joint efforts.

Related links:

- [4th Working Committee Meeting on MHM with Line Departments – 28th February, 2020.](#)
- [One Day State Level Workshop on Menstrual Hygiene Management – “It’s Time for Action”.](#)
- [7th Working Committee Meeting on Menstrual Hygiene Management \(MHM\) organized by Dept. for Women, Children, Differently Abled and Senior Citizens in association with AP HRD Institute, Bapatla and supported by UNICEF](#)

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Case Study: **India**

#11 | July 2022

NILOGON TECHNOLOGY: A HOME-BASED COMMUNITY LEVEL SOLUTION FOR FLUORIDE MITIGATION IN KANKER DISTRICT OF CHHATTISGARH, INDIA



■ Background

Chhattisgarh is a state in central India. Water contamination has always been a matter of grave concern in numerous areas of Chhattisgarh. Groundwater here faces contamination with fluoride, iron, turbidity, arsenic, nitrate, etc. Monitoring groundwater quality is essential through representative sampling in different hydrological units. The chemical water quality is monitored by Central Ground Water Board (CGWB) once a year in India. 19 districts of 28 districts of Chhattisgarh are affected by fluoride (CBGA Report, 2019). Nearly 90% of the rural population of the country uses groundwater for drinking and domestic purposes and due to excess fluoride in groundwater, a huge rural population is threatened with health hazards of fluorosis (CGWB report). Drinking water dependency is also high in the ground water source in Chhattisgarh. An excessive amount of fluoride in drinking water exposes people to risks of skeletal fluorosis, dental fluorosis, and/or both.

Kanker is one of the fluoride-affected tribal districts of Chhattisgarh. As per the Bureau of Indian Standards (BIS), 10500:2012 the acceptable limit for fluoride in drinking water is 1.0 mg/l whereas the permissible limit in the absence of an alternative source of drinking water is 1.5 mg/l³⁷. In some villages though, the fluoride contained in the water exceeds 5.0 mg/l. Therefore, in many villages in the Kanker districts children and other populations are found to be with dental fluorosis.

³⁷ The Bureau of Indian Standards (BIS) has specified safe drinking water quality standards (IS 10500:2012) which is followed for Drinking Water Supply protocol by departments of drinking water supply in India.

■ Strategy and implementation

Global water quality monitoring framework

The UN General Assembly in 2010 declared access to clean water a fundamental human right and a prerequisite for the realisation of many other human rights. SDG 6.1 aims to achieve universal and equitable access to safe and affordable drinking water for all by 2030. Indicator 6.1.1. speaks of the proportion of the population using safely managed drink water services³⁸.

UNICEF's Water Game Plan: Universal safe and sustainable water services for all by 2030 (March 2020) says geogenic contamination is present and persistent in many locations. At least 200 million people drink water with concentrations above the 1.5 mg per litre guideline for fluoride. It suggests that the approaches to addressing quality standard issues include investments in water treatment technologies, innovation, supply chain strengthening, household water treatment and safe storage, or chemical removal (including the use of reverse osmosis when technically and financially feasible).

National strategy

The government's national flagship program Jal Jeevan Mission (JJM)³⁹ aims to provide tap water connections with adequate quantity (55 LPCD - Liter Per Capita per Day) and prescribed quality (BIS:10500) to every household by 2024. Recognizing the risks, water quality-affected areas are accorded priority in the implementation of JJM. Similarly, water quality monitoring and surveillance activities are also prioritized.

Strategy for community-level intervention

In line with the global and national framework on water quality management, UNICEF Chhattisgarh began implementation of this project on fluorosis mitigation in the Kanker district with home-based water filter technology in November 2021.

UNICEF India Chhattisgarh's office partnered with the district administration and a local civil society organization named Samarthan to intervene in 60 villages affected by fluoride. It had as objective to empower the community with skill and knowledge for the entire intervention. In collaboration with the health department health camps were planned to physically identify a population with fluorosis and create awareness.⁴⁰ As a short-term measure water purification at the household level was important to reduce the number of people affected by fluorosis. It was also important to make the community aware of food habits to be adopted in areas with high fluoride content in water. Following activities were undertaken to achieve project results.

1. Selection and intervention of household-level fluoride removal water filter

- a. 60 villages were identified for intervention in consultation with the Public Health Engineering Department (PHED) and community-based organizations.
- b. Village-level meetings, mapping of water sources, and focus group discussions were organized from November 2021 to March 2022.
- c. Forty-four health camps were organized in three blocks (Kanker, Charama and Narharpur) covering all 60 intervening villages.

³⁸ A safely managed drinking water service is defined as one located on premises, available when needed and free from contamination.

³⁹ Jal Jeevan Mission (JJM) is a national flagship program in India which was launched in 2019 to bring piped water supply to every rural household in India by 2024.

⁴⁰ The concept of transferring the skill of women on water quality testing through FTK is one of the mandates of the JJM.

- d. Physical verification of 4041 people in the age group from 10 years to above 70 years was done in health camps in which 1800 people were identified as affected with fluoride.
- e. Based on the health camp and household level data collected from 60 villages, two villages which had a maximum number of fluorosis cases were identified for intervention.
- f. After a series of discussions with local self-government leaders (*Sarpanch*) and community members of two intervening villages, a urine test for fluoride was done for 160 members above the age of 40 from different households.
- g. Out of those 160 persons, 80 with high fluoride in urine were selected to receive the household water filters.

2. Adoption of Nilogon Technology for water filtration at the household level

Nilogon is a tested fluoride removal technology developed by Dr Robin Dutta and team at the Department of Chemical Science, Tezpur University, Assam. Nilogon means removal in Assamese. According to a research article on India waterportal: *“Fluoride Nilogon may be called the phosphoric acid-crushed limestone treatment method of fluoride removal from water. (...) The crushed limestone bed remains active for at least four years and nine months. The crushed limestone bed where the fluoride-containing water, premixed with a very small quantity of edible phosphoric acid to 0.00068 molar concentrations, is treated for a residence time of 3 hours.”*⁴¹ The same source mentions that *“Fluoride Nilogon units can be custom designed with any capacity of treated water.”*

The household-level Fluoride Nilogon units (15 litres per batch capacity) adopted in Kanker district in 80 households by UNICEF was given out in two villages: Murdhuwa (Charama block) and Shamtara (Narharpur block) constituted a) a 40-litre plastic bucket with a plastic tap for the crushed limestone bed b) approx. 50 kg of crushed limestone between 0.1 and 1.5 cm big, c) a sand-gravel filter of a 20-litre plastic bucket.

The cost of one filter is around 3500 Indian Rupees in the Kanker district. The cost for limestone, which has an almost unlimited lifetime, is included. Recurring cost incurred in the use of the Fluoride Nilogon filter are the cost of phosphoric acid and for distilled water.

During the project time the market retail price of 1 liter of 85% phosphoric acid was 200 Indian Rupees and distilled water cost about 50 Indian rupees per liter. 900 ml distilled water were used for dilution with 100 ml phosphoric acid. Only 7 ml diluted solution were required for filtering 15 liters of water.

The Tezpur University claims that this low-cost filter technology is environment friendly and limited maintenance is required.

3. Community mobilization and system strengthening for the sustainability of program intervention

- a. Community members were oriented on the water filter technology and food habits to be adopted in fluoride-affected areas.
- b. A user group consists of 25 to 30 members with one member of different households being trained.
- c. *Sarpanch*, *Panch* members from each ward (lower units of local self-government), and health front-line workers (*Mitanins*) are also members of this group.

⁴¹ [Nilogon for fluoride removal from groundwater](#)

■ Progress and results

Surveillance activities for water quality management identify and evaluate factors that can pose a health risk. Active community involvement in water quality surveillance activities enabled them to take preventive or remedial action to ensure potable water. The intervention process, findings of the water quality test, and urine test were discussed at the district level with district officials from different government departments. Some key results are listed below:

- a. All 80 households that received the water filter provided by partner Samarthan supported by UNICEF are using it.
- b. Wall painting on fluorosis and food habits was done in various key places in the 60 intervention villages to support messaging.
- c. 300 women named *Jal Behni* (water sisters) were trained on water quality testing via field testing kits by project staff in collaboration with PHED staff working for JJM at a local level. The gained capacity is enabling the women to test water from all sources in their respective villages.
- d. 24 drinking water sources in two intervening villages have been tested through field testing kits and a confirmation test has been done in the district water quality testing laboratories of PHED.
- e. Three user groups are meeting every fortnight to discuss issues relating to water quality and collect funds for the maintenance of the water filters. Funds per household vary from 100 to 200 Indian Rupees depending on the size of the household.
- f. Such training for women and the involvement of local leaders, youths, and school children in the project area have increased awareness of water quality management and fluorosis.
- g. Dietary counselling by field volunteers, front-line workers, and user group members resulted in changing the food habits of the community. This will be supporting improved future health outcomes.

■ Lessons learned and way forward

Key lessons learned while implementing this project and some ways forward are explained below.

- a. The evidence generated from this intervention needs further distribution. UNICEF India Chhattisgarh office will work with the district administration to develop a framework of water quality monitoring and surveillance (WQMS) with a special focus on fluoride and bacteriological contamination. Convergence of various departments will be promoted further (Phase 2)
- b. Rural villagers were keen to adopt new technologies, however, for responsible and sustainable scale-up, government departments need to promote interventions at the household level until the supply of safe water from an alternative source, in such water quality affected areas can be guaranteed.
- c. Upstream advocacy at the state level will be done by sharing the learning from this UNICEF intervention in the Kanker district for scale-up by local government in other parts of the state and beyond state boundaries. Other states and countries which are facing similar geogenic contamination in groundwater may adopt similar small community-led technological interventions to manage water quality issues locally.

- d. Different financing opportunities can be explored for water quality management. Confining CSR funds, additional earmarking of specific human resource provisions, and funds can be planned. Good, innovative public-private partnership (PPP) models for WQMS can be created to achieve the global goal of universal and equitable access to safe and affordable drinking water for all by 2030.
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Related links:

- [States Wise Details of Partly Affected Districts with Select Contaminants in Ground Water of India](#)
- [Indian Standard Drinking Water- Specification](#)
- [Groundwater quality features of the country](#)

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Case Study: **India**

#12 | July 2022

THE MAHARASHTRA GOVERNMENT AND UNICEF PARTNER TOGETHER TO BUILD THE CAPACITY OF WASH STAKEHOLDERS DURING COVID-19



■ Background

Access to safe water and sanitation is essential for unlocking economic development and improving the health and education of all. Sustainable Development Goal (SDG) No. 6 aims to ensure the availability and sustainable management of water and sanitation for all by 2030. Water Sanitation and Hygiene (WASH) also contributes to numerous other goals, including those relating to nutrition, health, education, poverty, economic growth, urban services, gender equality, resilience and climate change.⁴² India's consistent efforts towards access to safe water and sanitation include the launch of various timebound programmes like Swachh Bharat Mission and Jal Jeevan Mission among others. It is a humongous task to provide safe water and sanitation facilities to the 18 crore households in India located in around 6.63 lakh villages across the 755 districts of 36 states and union territories. India self-declared itself as open-defecation-free (ODF) in 2019 and aims to provide functional household tap connections to every household by 2024. To achieve the targets, set under these programmes, there is a requirement for convergent support across the operational ladder in planning, implementation, capacity building, monitoring, audits, documentation, etc.

⁴² UNICEF Strategy for WASH (2016-2030)

The Maharashtra state has been a pioneering state in the water and sanitation sector in India. The Maharashtra state has continuously provided effective solutions and pathways to the nation through its innovative programmes and approaches (for example the Nirmal Gram Puraskar, Integrated Watershed Development Programme, etc.).

However, recent floods, cyclones, landslides, COVID-19 pandemic, and mission mode engagements (programmes like Jal Jeevan Mission, campaigns), etc., have severely put pressure on the WASH services as well as the stakeholders engaged in it. It was therefore required to enhance and strengthen the knowledge and capacities of these stakeholders for providing effective service delivery.

■ Strategy and implementation

India has several stakeholders engaged in multilayer administrative units. The programmes like Jal Jeevan Mission (JJM) and Swachh Bharat Mission (SBM) have embedded the capacity building, monitoring, and evaluation elements in the national guidelines. These programmes have also made financial and technical provisions for these activities and seek support from UNICEF and various other development partners. The stakeholders engaged in these programmes includes the human resources from the government, non-government and government-appointed support agencies. The Jalsurakshaks, Swachhagrahis⁴³, the BRCs, District Water and Sanitation Mission (DWSM) staff, and government officials working at village, block and district level units have been the front runners in these programmes.

In Maharashtra, there are 21,287 Jalsurakshaks, 45,703 Swachhagrahis and 135 district officials that have been engaged in water and sanitation service delivery operations. An additional set of human resources have been engaged for water source identification, certification and strengthening activities by the Groundwater Surveys and Development Agency. The state has also entered partnerships with government departments, development partners (under JJM, SBM, and Atal Bhujal Yojana (ABhy) programmes), government agencies, foundations (like Nehru Yuva Kendra (NYK), and Village Social Transformation Foundation (VSTF)) and academia for convergent programme implementation. These stakeholders are providing support in the day-to-day operations of the WASH facilities and services across the state.

With this situation, UNICEF's response was to support the government to strengthen the WASH service delivery through the enhanced capacities of the stakeholders. UNICEF provided capacity building and real-time information dissemination and monitoring support through RapidPro technology, implemented from June 8, 2020, to September 13, 2020, and weekly webinar series (implemented from January 5, 2021, to August 25, 2021) for capacity building on water resource management.

The main objective of these two programmes was to reach out to the stakeholders engaged in WASH service delivery, share information, collect real-time feedback from them and monitor the WASH service delivery using the technology. The government decided to provide WASH facilities without any interruption

⁴³ Jalsurakshaks and Swachhagrahi are volunteers and motivators of JJM and SBM respectively.

during the pandemic, floods, cyclones and other natural hazards. To implement the programme, permission was granted by the state to continue their work for the service providers during the pandemic and was provided protocols for safe WASH practices during the pandemic, instructed for effective functioning of the services, and also decided not to stop the capacity building initiatives without fail.

Both the programmes were joint initiatives under the Department of Water Supply and Sanitation and UNICEF and were monitored by the officials and consultants engaged by the respective entities. The following is a summary of the strategies and implementation of the two programmes.

1. RapidPro for Jalsurakshaks, Gramsevak and block and district level officials:

During the COVID-19 pandemic, the Department of Water Supply and Sanitation, Government of Maharashtra used the RapidPro system with technical support from UNICEF to connect with the field level functionaries and service providers (i.e., Jalsurakshaks and Swachhagrahis), using voice calls. The pilot was implemented for 12 weeks from June 8, 2020 to September 13, 2020. Daily calls were made to more than 55,000 Swachhagrahis and Jalsurakshaks from all villages and district officials in the state. Key activities carried out for running the pilot have been a phone number collection drive, development of 1-12 weeks of thematic WASH survey questions, recording of 12 weeks of survey questions into the Interactive Voice Response (IVR) system, and repeated campaign to mobilize and create awareness about the RapidPro pilot among participants with support from the government department and dashboard development for weekly calls with analysis of survey questions. During this pilot, stakeholders received information about COVID-19 and WASH (knowledge, practice, and attitude), WASH material (availability, use and demand) and understanding of SBM and JJM.

For Rapid Pro, the selection of the target stakeholders was done in collaboration with WSSO, and the respective 34 *zilla parishads* in the state. The target stakeholder's list was compiled in given formats.

2. Aao Bhujal Jane ("let's know groundwater") Webinar series:

During the COVID-19 restrictions, the government continued with capacity-building initiatives. The government with technical support from UNICEF organized weekly digital webinars on curated/priority groundwater themes/subjects where experts working in the groundwater sector were engaged. The participants of these webinars included officials and personnel working with government, non-government, academia, etc. Key activities carried out for and during the webinar series included deciding the theme of the webinar, identification of suitable experts, developing brochures, inviting the participants for the webinars, documentation of the webinars, press releases and social media releases, etc. In the Aao Bhujal Jane Webinar Series, the participants were invited through the district mechanism where partners were engaged in the webinar series.

Monitoring of these two initiatives was jointly done with the government counterpart Department of Water Supply and Sanitation through the establishment of feedback and reporting mechanisms. This helped the state to take timely actions during the programme implementation.

■ Progress and results

RapidPro

The department has reached out to more than 55,000 registered Swachhagrahis and Jalsurakshaks from all villages in the state. As the department had received real-time data from the field directly, it was essential for the success of the programme. This data was shared with the department to take immediate decisions to improve the programme intervention with its quality. Under this pilot, the questionnaires, recordings and mode of transmission of the information were adapted by seeing the user-friendliness of the stakeholders. The desired information has been transmitted from the state to the field and required inputs about the current situation from the field were received back.

Aao Bhujal Jane

The Aao Bhujal Jane webinar series reached out to 2,355 groundwater sector participants from the state. The participants gained clarity regarding the various issues (including technical, operational, social, health, managerial and various cross-cutting areas), approaches, challenges and emerging challenges in the sector. A total of 79 sector experts were engaged in the webinar and continued to provide input to the department from time to time. They actively participated in 2022 World Water Day in a brainstorming session, which was held at GSDA, Pune wherein they provided inputs and suggestions for the next 25-year strategy for groundwater and groundwater management improvement.

■ Lessons learned and way forward

Both the pilots focused on the implementation of the WASH services and programme activity during the pandemic and floods situations. The programmes connect the state and district units with the villages. The pilots also helped the state to think and widen the perspective beyond routine monitoring and information dissemination activities.

- **RapidPro**
 - The RapidPro system has been proved to be effective as the respondents are informed about its purpose and district teams take a proactive role in alerting the field-level functionaries.
 - User fatigue leads to a lower answering rate as multiple agencies are reaching out to the same group of FLWs. For a similar campaign, a mix of multiple channels, like IVR, WhatsApp calls, or phone calls could potentially be used to achieve increased coverage.
- **Aao Bhujal Jane**
 - High frequency with low doses of capacity-building webinars is more productive than the low-frequency high doses of capacity-building sessions.
 - Follow-up webinars can be conducted for the actions suggested during the webinar

Related links:

- RapidPro- [Concept](#)
- Maharashtra - [RapidPro Dashboard](#)
- [Aao Bhujal Jane Webinar Series Report \(Marathi\)](#)

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Case Study: **Nepal**

#13 | July 2022

IMPROVING THE FUNCTIONALITY OF COMMUNITY WATER SUPPLIES THROUGH WATER SAFETY PLANNING (WSP) IN NEPAL



■ Background

Water is one of the most important natural resources of the nation. Nepal has an abundance of water resources, including snowpacks, rivers, springs, lakes, and groundwater. Rivers, streams, lakes, reservoirs, springs, and groundwater are the major sources of drinking water. Tap or piped water, tube wells or hand pumps, covered or uncovered wells, spout water, rainwater collection, and river or stream water are available options for the primary supply of drinking water. Piped water supply system has the highest coverage among all the options. Can be said, according to the Department of Water Supply and Sewerage (DWSSM) report of 2019, 87.88% population have access to a basic level of water supply and out of which coverage of piped water supply is 51.69%, followed by tube-wells (33.38%) and 12.12% from lake, ponds and streams. The report of DWSSM also reveals that a total of 42,039 piped Water Supply Systems (WSS) are registered in municipalities or in-district water supply resource committees. Coverage of those systems varies from small to very high (minimum of 5 to more than 5,000 households (HHs)). Though there are plenty of options for drinking water supply in different geographic locations, the quality of water utilized from those sources is observed to be poor.

The data presented above suggests that there is access to basic water supply services in Nepal. However, community water supply projects face serious challenges in functionality, water quality, and suitability. As per the DWSSM 2019 report, only 28% of water supply projects are at a proper functional status and the remaining need minor to a major repair, maintenance or rehabilitation. Likewise, the Multi Indicators Cluster Survey (MICS) report of 2019 also shows, that among all those community water supply projects, only 19% of water supplied in the households and communities is safely managed while the remaining 81% need an improvement in water quality.

This case study focuses on Karnali and Sudurpaschim provinces where the status of the functionality of installed water supply systems is almost similar to the nation (29%). However, the quality of the water is questionable, as it stands at 14.7% for Sudurpaschim and 3.5 % for Karnali respectively. To address those challenges, the government's top priority is the improvement of functionality with the initiation of the National Drinking Water Quality Standard in 2005 and the approach of the Water Safety Plan (WSP)⁴⁴ since 2006 with technical support and guidance of WHO and UNICEF.

Due to the differences in the areas/communities, there might be variation in the factors, however, most of them appear to be common and connected in this case. The most relevant and common factors include the following:

Project selection, planning, and implementation:

- Wrong selection of projects with the influence of political and powerful personnel of the society
- Poor structures, designs, and inadequate budget allocation
- Use of low-quality construction materials
- Long construction period (construction period of some projects is noticed from 10 to 15 years)
- Negligence of water users from selection to completion of selected water supply projects
- Poor engagement of water users during survey, design, and construction of selected projects
- Inadequate application of water safety principles and measures,
- Per capita investment in remote areas and mountainous areas is very high.

Coordination and communication:

- Poor coordination among government bodies, development stakeholders, and community people
- Conflict among community people
- Disputes regarding the water source
- Duplication of resources.

Technical support, monitoring, and supervision:

- Poor monitoring and technical support during the survey, design, and construction phase
- Water supply system repair and maintenance are not conducted in time.

⁴⁴ The WSP is an approach for the improvement of the functionality of a water supply system. The entire process is divided into seven major steps, which are i) formation of WSP team, ii) assessment and analysis of system, iii) identification of hazards and risks in water supply system (WSS), iv) development of improvement plan, repair, and maintenance of the WSS, v) monitoring of process initiated, vi) verification of progress, and vii) consumer satisfaction.

Governance and transparency:

- Meetings of user committees did not happen in the agreed period or were irregular
- Records of procurements and materials used are not maintained
- Budget details are not shared with the water users
- Water tariffs not provisioned and paid
- No provision of maintenance workers in the water supply system
- Lack of trained human resources for minor repair and maintenance, water quality tests and need-based chlorination/treatment of water supply systems
- Misuse and corruption of allocated funds.

Resilient structures, disaster, and climate change:

- Depletion of water sources because of unplanned structural works and deforestation,
- Poor and less resilient structures,
- Unexpected and irregular rainfalls,
- Extraction of ground water without environmental impact assessment (EIA).

Furthermore, during the assessment, it was noticed that rather than maintaining and repairing the existing water supply, investing in a new project was deemed effective due to the higher dependency on external resources. Each of these multiple and interlinked factors makes the functionality and sustainability of community water supply systems more challenging. To accomplish the highlighted challenges and gaps, geo-specific interventions (i.e., province and municipality), policy formulation, endorsement and their effective implementation were deemed essential.

■ **Strategy and implementation**

In 2020, UNICEF Nepal initiated context and geo-specific interventions with a small modification to the existing WSP approach for the improvement of functionality and sustainability of the community. WSS ensured access to safe water for community people and improve the sanitation status of the catchment areas of selected WSS (including communities, schools, and health care facilities). That was initiated in close coordination with the provincial and local governments of Nepal and named Water Safety Planning to Water Safe Community (WSC)⁴⁵, which was implemented through three field offices of UNICEF Nepal.⁴⁶ All three offices have been closely working with the provincial and local governments of assigned areas.

Most of the development indexes (including the functionality of status of water supply projects and water quality status) of both the provinces are very poor compared to other provinces of Nepal.

To scale up the process of WSC, the Nepalgunj Field Office (FO) team coordinated with the selected 19 local governments of Karnali and Sudurpaschim provinces, and identified communities having difficulties in

⁴⁵ The Water Safe Community (WSC) concept was introduced by UNICEF Nepal during earthquake recovery during 2016-2018 and further expanded in regular projects from the 2019-2022 CDP cycle. Additional steps added on WSP to upgrade the project at status of WSC are i) drinking water is available to every household at their premises or within a 30-minute round trip, (ii) water quality conforms to the national water quality standards, (iii) has a sustainable operation and maintenance mechanism, and (iv) inclusive and active water supply user committee.

⁴⁶ UNICEF Nepal Field Offices:

- a) Janakapur FO: Madesh Province (province 2) located south east from the capital city, Kathmandu,
- b) Bhairahawa FO: Lumbini Province (province 5), located south west from the capital city, Kathmandu,
- c) Nepalgunj FO: Karnali & Sudurpaschim Province (provinces 6 and 7), located in the mid-west and far-west from the capital city, Kathmandu.

accessing safe water. With the technical support and guidance of the WASH team in Kathmandu, the FO team carried over the following major tasks to move forward.

Coordination and communication

- Established coordination and communication with the leaders and executive committee members of the local governments and development stakeholders for collaborative actions.

Project selection, planning, and implementation

- As per the priorities of the local government, prioritized projects where WSP was most important were jointly identified
- The local government allocated some funds for scaling-up the proposed interventions and UNICEF contributed to fulfil the gaps
- The local government took full ownership of the process, allocated matching funds, and the process of WSP leading to a water safe community was initiated.

Support for policy formulation and capacity development

- Policies required to facilitate the process of improvement of functionality, water quality tests, and sustainability were updated and developed as per local needs
- Members of water user committees of selected water supply projects were capacitated especially on the process of improvement of functionality, sustainability, water quality tests, and periodic treatment of water supply systems
- The role and responsibilities of all stakeholders were identified and well explained.

Technical support, monitoring, and supervision

- A dedicated and trained technical team assigned from the programme municipalities and Civil Society Organizations (CSO) conducted feasibility studies of the selected projects and prepared estimates and designs
- Planned activities were dedicatedly implemented with regular monitoring and technical guidance along with close monitoring and supervision of technical human resources.

Interventions for the improvement of functionality and water qualities were initiated in 93 projects from 19 municipalities in Karnali and Sudurpaschim provinces with the approach of the WSC with the limited technical and financial support of UNICEF Nepal. The target was for three years (2020-2022); all projects were implemented in close coordination with the leadership of local governments with the expectation to accomplish tangible results by the proposed period.

■ **Progress and results**

As of December 2021, there was an improvement in the functionality of community water supply projects, water taps were installed, either within the premises or within the distance of two-way commuting distance of 30 minutes, and periodic monitoring of water quality was completed in 30 WSS despite immense disturbance from the COVID-19 pandemic. With the completion of the planned work of WSC, 4,191 people from 1,278 HHs were directly benefitted. Furthermore, children studying in 21 schools and patients visiting 2 health care facilities within the catchment area of 30 WSS were directly benefitted by the intervention. Moreover, the project is ongoing in the remaining 63 WSS with the expectation to complete all them by 2022. Along with the tangible outcomes, some of the other invisible achievements are described below.

	Main components	Results and key achievements
1	Coordination, communication, and behaviour building	<ul style="list-style-type: none"> • Good coordination and communication were established among user committee members and local government officials • Budget details and responsibilities of user members were shared in advance, which minimized confusion and disputes • The social mobilization process was initiated in catchment areas of 93 projects for behaviour building of local people • The practice of regular hand washing and toilet use is strongly maintained in the catchment areas of 30 WSC declared WSS.
2	Project selection, planning, and implementation	<ul style="list-style-type: none"> • In total, 93 appropriate and feasible projects were selected through a transparent process. Estimate designs were prepared promptly, the budget allocated and implemented • The approach of WSP with a resilient structure is initiated in 93 projects.
3	Support for policy formulation and capacity development	<ul style="list-style-type: none"> • Project-implementing 19 local governments prepared local policies for the adoption of the approach of WSP leading to WSC and water quality monitoring through local effort • In total, 1,023 user committee members (with 360 being female) were capacitated on the importance of water quality, the process of improvement of functionality, and the concept of WSP and WSC • An operation and management mechanism was established with regular water tariff collection in 30 projects.
4	Technical support, monitoring, and supervision	<ul style="list-style-type: none"> • Dedicated technical staff were assigned for the timely completion of the agreed 93 projects. • In total, 30 repair and maintenance workers are identified and capacitated for minor repair and maintenance as well as need-based chlorination or treatment of water supply systems • Periodic water quality test mechanisms are established and operationalized for 30 WSS.

Additionally, there was a decrease in diarrhoea and water-borne disease (drastically reduced) in WSC and the culture of sanitation in the families and communities was also established. The sanitation and hygiene status of WSC-declared communities improved along with the functionality and water quality. The local government, highly acknowledged the process, allocated matching funds to fulfil the gaps, and adopted the same approach for the WSS through the resources of the local government.

■ Lessons learned

The following are some of the lessons learned which can be replicated in similar contexts:

- The goal of increasing access to safe water and improving the sanitation status of the catchment areas of intervened WSS can be achieved with a single intervention of WSC. Thus, this intervention proved to be simple, cost-effective, and efficient.

- Proper planning, adequate budget allocation, updating and formulation of required policies at the local level, capacity building of water user committee members in the aspect of WSP and WSC and transparent actions are very important for community-managed water supply systems and approaches of WSC are found most appropriate.

■ Way forward and potential application

After the declaration of the nation as a Federal Democratic Republic country in 2008, most powers, authorities, and roles were decentralized to provincial and local governments. However, the process of the establishment and operationalization of institutional mechanisms for the systematic improvement of water supply and sanitation services is still under process. Therefore, most of the laws, acts, bylaws and guidelines need amendment, for which UNICEF and development partners need to provide required technical support as well as push three tiers of the government (federal, provincial, and local). Likewise, the approach of WSP leading to WSC has already demonstrated in four provinces of Nepal (in technical support of UNICEF), which has been observed very effective and appropriate to increase the access to safe water and improve the sanitation status of the community. Additionally, advocacy and lobbying with the three tiers of governments, development stakeholders, and donors are crucial for scaling-up the approach.

Related links:

1. [Multiple Indicator Cluster Survey 2019](#)
2. [Nationwide Coverage and Functionality Status of Water Supply and Sanitation in Nepal, 2019](#)
3. [Climate Resilient Water Safety Plan Guideline, 2017](#)
4. [Water safe communities: An approach towards achieving SDG 6.1 in Nepal](#)

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Case Study: **Nepal**

#14 | July 2022

INCREASED ACCESS TO SAFE DRINKING WATER IN THE VILLAGE OF CHINA, NEPAL



■ Background

The right to water and sanitation entitles everyone to have access to sufficient, safe, acceptable, physically accessible, and affordable water for personal and domestic use. In 2010, the UN General Assembly and the Human Rights Council recognized clean drinking water and safe sanitation to be human rights, essential to the full enjoyment of life and all other human rights. Additionally, Sustainable Development Goal (SDG) 6.1 aims to “achieve universal and equitable access to safe and affordable drinking water for all” by 2030.⁴⁷ The rights to water and sanitation are essential for eradicating poverty, building peaceful and prosperous societies, and ensuring that “no one is left behind” on the road toward sustainable development.

Nepal has made significant progress towards realizing human rights on water and sanitation in the last decade, but challenges remain. For example, the Multi Indicators Cluster Survey (MICS) Report 2019, showed that access to basic water supply coverage in Nepal has reached 95.4% whereas safely managed services are only 19%. Additionally, drinking water quality at the source and household level seem highly contaminated with *E. coli* (75% and 75% respectively).⁴⁸ The remaining key challenges are the functionality of water supply projects, management mechanisms, and water quality as well as the fact that many water supply projects require repair and rehabilitation support.

⁴⁷ The Sustainable Development Goals (SDGs), 2016-2030.

⁴⁸ Multiple Indicator Cluster Survey Final Report 2019, Monitoring the situation of children and women in Nepal.

China village is a small but beautiful village located near Gamgadhi Bazar in Chhayanath Rara Municipality-02 of Mugu district. The village consists of 45 households, one basic level school, and one police checkpoint which does not have access to a safe water supply and had challenges fetching water. Previously, the water had been supplied through Srinagar Large Water Supply Project with public taps but due to the functionality and operational issues, it was discontinued. The locals relied on a spring tap at China Khola, which was located 20 minutes away from the village. The burden to fetch drinking water lied on women and children by making several trips in the morning and evening and their days were shaped for the walk and queuing for watering. For drinking and cooking purpose, the water was used from spring tap, however, for other household chores, water from nearby river was used, which was contaminated. Thus, this possessed serious challenge to achieve SDG target to the government.

■ Strategy and implementation

The 2030 SDGs focuses on providing safely managed water, sanitation, and hygiene for all at the global level and stressed that no one is left behind. The Nepal government has also committed to fulfilling the SDG targets as it has developed the WASH Sector Development Plan (SDP) for 2016-2030 in line with SDG; and adopted guidelines on the Water Safety Plan (WSP) to speed up the progress under the WASH sector. Additionally, the Constitution of Nepal has embedded access to water supply and sanitation as a fundamental right of a citizen through provisions made in Article 35(4).⁴⁹ However, there is an imperative need to localize SDGs 6.1 and 6.2 through water safety plans and water safe community (WSC) certification initiatives which has already been applied in other municipalities and water user communities.

UNICEF Nepal initiated a WSP intervention in China village's water supply project which is the foremost action to localize SDGs in rural communities. Through this programme, the capacity and knowledge of users were strengthened on water safety, functionality improvement of water supply projects, water quality testing, treatment, and the institutional set-up for regular operation and management. This process was facilitated by mobilizing a Civil Society Organization (CSO) named HIRYSDEC-Mugu which conducted the following activities in partnership with UNICEF Nepal. Implementation steps included:

1. Provided WSP training to the municipality and ward representatives, water user committee members including female community volunteers, school and HCF representatives
2. Assisted user committee for WSP team formation, conducted system analysis, hazard identification, prioritization, and WSP plan development of the China village WSP
3. Provided technical support on WSP plan implementation that carried out field-level surveys, designing, and cost estimates to revive the existing water supply system
4. Coordinated with the office of ward no.2, municipality office, and other development agencies and shared the situation for resource leveraging and WSP implementation
5. Provided technical support on the construction of intake, repairing of pipelines, and construction of RVTs and distribution lines
6. Trained users on water quality monitoring and provided technical knowledge on regular treatment services

⁴⁹ Constitution of Nepal, 2015.

7. Oriented users on the concept of WSC and its a certification process and sustainability compact
8. Rigorously guided the establishment of a management mechanism and provided day-to-day coaching for regular operation and services
9. Conducted sanitation and hygiene promotional activities in the community
10. Facilitated self-reflection of the system as per the WSC indicators and developed the status report which was reported to the ward and municipality
11. Coordinated with ward and municipality for joint monitoring, field verification, water quality testing, and third-party monitoring that certified a WSC as well
12. Guided water user committees for WSC documentation and reporting.

■ Progress and results

The following progress and results have been made:

- User committee members and local level stakeholders are capacitated on WSP/WSC tools and techniques
- WSP team formed and developed a WSP plan to ensure access to safe water supply and mitigate identified risks
- Developed the technical documents with detailed cost estimates
- Chhayanath Rara Municipality, UNICEF/HIRYSDEC and users invested NPR 1.15 million, NPR 900,000 from, and NPR 300,000 respectively for the project
- Timely completion of construction work with physical progress that completed one intake, repaired one intake, repairing pipelines (22 metres), constructed RVT of 10,000 m3 and distribution lines with household connection in 45 households and one school
- Users and Village Maintenance Workers (VMW) are capacitated on water quality monitoring and regular treatment services and equipped
- Made sustainability compact with well-defined roles and responsibilities
- Established user community-level management mechanism that appointed VMW and generated tariffs for regular operation and management
- Upgraded sanitation facilities in five households and one school and improved hygiene situation in each household
- Developed the situation report of the system as per WSC indicators and submitted it to wards and municipality office
- Conducted third-party monitoring with the participation of municipality and WASH sector expert agencies that is certified as WSC as well
- China village community has been declared a WSC and committed to serving safe water forever.

Through the joint effort and close coordination with different stakeholders, each house and school are now connected with regular and reliable water supply services. The project has also offered long-term solutions by involving relevant stakeholders, promoting self-sustainable business models, and implementing social campaigns. The lives of local people have improved in fundamental ways. According to the locals, having

taps in their yards was only an imagination, which has become a reality. Now, the young girls do not have to worry about fetching water before going to school due to the project intervention.

Bijaya Hamal of Chhayanath Rara Municipality said the following about the project:

“The locals, who have been fetching water from the spring and river source in China Khola, 20 minutes away from the village, have been surprised with the connection of safe drinking water taps in their houses. The female members and children are most benefited and comfortable after the construction of drinking water taps in each house of this village. The positive impacts have been seen in every aspect of social and economic development”.

■ Lessons learned

The systematic intervention of WSP targeting WSC has proven to be effective for community-level realization, building on using safe water and improved sanitation. During the process, users were trained and engaged in risk assessment, WSP plan development, and its implementation under the leadership of community people. Due to the community engagement, the locals were involved in water quality monitoring, regular treatment services, and established management mechanisms. Besides, local government and line agencies provided technical guidance and validation of water quality and mechanisms for sustainability. Community people ensuring the realization of SDG indicators at the community level is an example of local leadership, thus determining the success of the intervention.

The household connection with a safe water supply has proven to be efficient for household and other livelihood activities. In this water supply project, 275 people and 96 students in schools directly benefited from access to safe drinking water and users themselves established local level management and water quality monitoring mechanism. The community people are less likely to contract waterborne illnesses, contributing to health improvement.

The contribution of local government ensured accountability toward the realization of rights on water and sanitation, whereas community contribution ensured ownership. Moreover, the technical guidance for timely and quality construction of water supply projects supported the sustainability of services.

■ Way forward

The systematic intervention of WSP targeting WSC remains a very effective tool for small and remote communities as this can be replicated in similar rural areas of Chhayanath Rara municipality and other rural municipalities as well. This tool is also applicable to other urban areas of Nepal and other countries as well.

Related links:

- [Multiple Indicator Cluster Survey Final Report 2019](#),
- [United Nations adopted the Sustainable Development Goals \(SDGs\) by General Assembly resolution A/RES/70/1 of 25 September 2015](#)
- [Nepal's Constitution of 2015](#)
- [Sustainable Development Goals, 2016-2030](#)
- [Climate Resilient Water Safety Plans Guideline, 2017, Government of Nepal, WHO and UNICEF](#)

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Case Study: **Nepal**

#15 | July 2022

ENSURING WATER QUALITY THROUGH THE REGULAR USE OF CHLORINE AND FRC TESTING IN KANCHANPUR, NEPAL



■ Background

Nepal has relatively high inland water resources and is geographically diverse. It is topographically divided into three regions: high Himalaya, middle Hill, and low land Terai. Due to such diversity, the drinking water services are different in all regions. In Himalayas and Hilly regions, water supply systems are mainly through gravity flow whereas hand-pumps and deep boring are in Terai. As per the Department of Water Supply and Sewerage (DWSSM) 2019, there is 51.69% access to basic drinking water through 42,039 piped systems and 33.39%⁵⁰ through shallow tube well / deep borings. Although the National Multiple Indicator Cluster Survey report, 2019 shows that access to the basic water supply⁵¹ is 95.4%, only 19.1% of households have safely managed⁵² drinking water supply. There is high access to basic water supply among the population, however the safely managed water supply seems very low due to the limited focus on water quality aspects.

Nepal Government's primary priority has been to increase access on basic water supply whereas focus on water quality aspects is secondary. The MICS report, 2019 shows that the drinking water quality at source and households is highly contaminated with *E. coli*⁵³ which is 75.3% and 85.1% respectively. There are

⁵⁰ Water supply and sanitation status report, 2019 (DWSSM)

⁵¹ Basic services: drinking water from an improved source, provided collection time is not more than 30 minutes in a round trip.

⁵² Safely managed: an improved drinking water source located on premises, free of *E. coli* and available when needed.

⁵³ *E. coli*: *Escherichia coli* is a bacterium that is commonly found in the gut of human and warm-blooded animals and its presence indicates the presence of other harmful pathogens.

different options available for water treatment such as coagulation, flocculation, sedimentation, filtration, and disinfection. Chlorination (disinfection) is one of the easiest and most widely used methods for water treatment but its efficacy can be influenced by the procedures, range of free residual chlorine, time duration, and distribution system. Therefore, Free Residual Chlorine (FRC)⁵⁴ with a range of 0.1-0.5 mg/l⁵⁵ should be maintained in each point to assure the access of safe drinking water to the community from the source.

The “Adarsha Water Supply system” is one of the deep boring overhead water supply systems in Bhimdatta Municipality-3, Kanchanpur of Sudurpaschim Province, Nepal. Most of the water supply systems in Terai are from deep boring with overhead water tanks. As per the DWSSM, 416 piped systems cover around 90% of the total basic water supply⁵⁶. The total capacity of the overhead tank of this system is 4 hundred 50 thousand cubic meters, which was constructed in 2011 and handed over to consumer groups in 2015. This water supply system is designed for 2500 households and to date served 2325 households whereas 10 full-time staff are working to regularize the systems and operational functions. This system has inbuilt regular chlorination at central through an auto-dosing system. However, as this system has long pipelines, the residual chlorine concentration decreases with the distance of distribution. The FRC testing in a different point of use is required but is not in practice. It is unknown whether the water served to all the beneficiaries is safe or not in terms of E. coli. Thus, the installation of sub-station for chlorine dosing units at the network and regular FRC testing services at different levels can scale up safe drinking water for the community.

■ Strategy and Implementation

The Sustainable Development Goal (SDG) 6.1 include a target for universal and equitable access to safe and affordable drinking water for all by 2030, which might be difficult for least developed countries to achieve. Nepal government has also committed to fulfilling the set target by SDG Goal 6.1 by 2030. The constitution of Nepal has embedded access to water supply and sanitation as a fundamental right of a citizen through provisions made in Article 35(4). The appendices of the constitution have defined the provision of water supply and sanitation as a matter of concurrent function between the national, provincial, and local level governments. Thus, there should be a strategic intervention at the local level to realize and ensure the results of SDGs as well.

UNICEF Nepalgunj Field Office has been supporting the Nepal Government to scale up Water Safety Plan (WSP) and Water Safe Community (WSC) in urban and semi-urban areas in Karnali and Sudurpaschim province. The project was posted on the UN portal on 11th April 2022 and was started in May 2022 and will go up to eight months. The following activities are systematically applied:

1. **Coordination & communication:** Due to the cross-sectoral nature of the project, the technical partner needs to build strong coordination with the local governments and WASH stakeholders in respective areas of implementation.

54 Free Residual Chlorine (FRC): a test used to check the amount of free residual chlorine present in the water sample.

55 According to National Drinking Water Quality Standards of Nepal (NDWQS) 2005

56 Water supply and sanitation status report, 2019 (DWSSM)

2. **Community engagement:** An agreement has been made between UNICEF Nepal and the municipality on 26th April 2022. Community engagement at the household level is the top prioritized task for the sustainability of the project. Activities related to capacity building of municipalities and communities on water quality testing and monitoring to increase access to safe water supply in the selected communities will be performed.
3. **Reconstruction of pipes:** Installation of the sub-station chlorine dosing units is the main intervention of the project. This process makes sure the availability of chlorine in the water. Thus, each household in the community can access safe drinking water.
4. **Support to use of FRC tests:** UNICEF can provide technical training on water quality treatment and monitoring, financial support, and advocacy for the development of a long-term WASH Plan at the Local Government level (Palika).

■ Progress and results

The assigned project was initiated in May 2022 and the progress will be made by the end of December 2022. The main goal of the project is to support selected Rural Municipalities and Municipalities of Sudurpaschim and Karnali Provinces in the implementation of WSP leading to the declaration of WSC.

1. **Coordination & communication:** UNICEF Nepalgunj Field Office is carrying out the overall management of the partnership for this assignment with technical backstopping from Civil Society Organizations (CSOs).
2. **Community engagement:** Currently, UNICEF Nepal and Bhimdutta municipality is collaborating with the National Environment and Equity Development Society (NEEDS) Nepal, which engages with the community in the field.
3. **Reconstruction of pipes:** Till the end of April 2022, pipelines are distributed up to 76 KM at the Bhimdutta municipality. The sub-dosing system installation and reconstruction are initiated.
4. **Support to use FRC tests:** The estimated date of the start of the project is 1st May 2022. The evaluation criteria associated is split between technical and financial as weightage for technical proposal (70 %) and weightage for financial proposal (30 %).

The expected result at the end of the interventions is to declare at least 6 WSPs targeting the WSC in urban and semi-urban areas in Karnali and Sudurpaschim Provinces with proper water quality testing and monitoring mechanism. This intervention in the water supply system will decrease the risk of water-borne diseases such as diarrhoea, dysentery, typhoid, and other similar diseases in children and families which is caused due to fecal contamination in drinking water.

■ Lessons learned and way forward

As this is an ongoing project, further lesson learned are yet to be documented. However, some of the expected lessons learnt based on current development are:

1. For the success of the project, all three levels of Government (Federal, Provincial and Local), Non-Government Organizations (NGOs), private sectors and developing partners need to work in close coordination with each other. If worked together with common belief, coordination, and joint effort the targeted goals can be achieved on time.
2. There should be ownership among the community for the project to be sustainable after its completion of the project. Active participation of the community is essential for the sustainability approach. Thus, the communities should be trained for their capacity enhancement to access and test FRC on their own for the sustainability of the intervention.

As for now, the way forward is to fully implement the programme in support and coordination with UNICEF, local government and municipality. It is a research-based project, initiated by UNICEF Nepalgunj and once completed, depending upon the success of the intervention, the result, idea and intervention will be applied to other water supply systems. As the water source of Hilly region of the Karnali and Sudurpaschim Provinces is highly contaminated with E. coli, thus, these regions of Nepal could be further benefitted from this programme.

Related links:

- [Department of Water Supply & Sewerage Management \(DWSSM\), Government of Nepal, 2019](#)
- [Multiple Indicator Cluster Survey 2019 \(unicef.org\)](#)
- [Water Treatment | Public Water Systems | Drinking Water | Healthy Water | CDC](#)

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Case Study: **Pakistan**

#16 | June 2022

EMPOWERING WOMEN TO PROMOTE SAFE MENSTRUATION IN CHITRAL DISTRICT KHYBER PAKHTUNKHWA (KP) PROVINCE - PAKISTAN



■ Background

Menstrual Health & Hygiene Management (MHH) is a topic of concern for health, education, human rights, water, and sanitation sector. In Pakistan, more than 42 million (roughly 22%) girls aged between 10 to 19 years are at menstruation age⁵⁷. Pakistan has the world’s second-highest number of out-of-school children with an estimated 22.8 million children, of which the majority are girls. The net attendance drops from 62.3% at primary school to 28.9% at secondary school, while more than half are unaware of menstrual health & hygiene⁵⁸. Menstrual Hygiene is one of the serious issues that need proper attention as poor menstrual hygiene has serious negative impacts on girls and women’s health, social lives, and education. Across the country, many girls face challenges in attending schools. The data reveals vast regional/provincial disparities in providing equal opportunities for schooling for girls, with the greatest disparity in Khyber Pakhtunkhwa (KP) province where 52% of girls are out of school, compared to 21% of boys. The net enrolment rate for girls stands at 53% for primary level and this drops to 21% at the middle level. The lack of adequate sanitation facilities particularly impacts girls’ retention rates in middle and high schools. Challenges related to menstrual health and hygiene are the same at the provincial level, where girls are even more vulnerable to its negative impacts.

⁵⁷ Education Management Information System (EMIS)

⁵⁸ Ibid

■ Strategy and implementation

MHH is important for the fulfilment of girls' and women's rights, a key objective of the Sustainable Development Goals (SDGs). Women and girls' access to MHH is a component of gender-responsive WASH services. SDG 6.2 acknowledges the right to menstrual health and hygiene, with the explicit aim to, "By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations". Without considering the need for safe and dignified menstruation, the world cannot achieve the vision for sanitation and hygiene under SDG 6.

In Pakistan, MHH is integrated into National and Provincial WASH in Schools (WinS) strategies. At the provincial level MHH is included in the WASH Sector development plan Khyber Pakhtunkhwa (KP) and MHH provincial working group, which is operational since 2017 with the Local Government, Elections and Rural Development Department (LG&RDD) as Chair, UNICEF as co-chair and other departments (Education Dept, Health Dept, Social Welfare Dept), civil society organizations, such as the Sarhad Rural Support Programme (SRSP) and Integrated Regional Support Program (IRSP) and international non-governmental organisations such as the International Rescues Committee (IRC) as active members and contributing towards the MHH agenda.

Within the above strategies, during the years 2018 & 2019, UNICEF initiated a WASH response project for the flood-affected population in the Upper Chitral district of KP with the support of a local CSO - Agha Khan Rural Support Program (AKRSP). The project was focused on WASH-based interventions such as the provision of resilient water & sanitation facilities and hygiene promotion for behaviour change aimed at improving the health of the affected population. MHH was an integral component both in institutions (schools & health care facilities) and at the community level to improve the MHH status of girls' schools and empower women to practice safe menstruation. The main initiatives of the project were:

1. Initial assessment to identify WASH needs in targeted communities and institutions
2. Rehabilitation of drinking water supply systems (DWSS)
3. Improved access to sanitation
4. WASH in institutions (schools & health care facilities)
5. Hygiene promotion & Social and Behavioural Change (SBC) campaigns
6. MHH interventions in girls' middle & high schools
7. MHH entrepreneurship at the community level

■ Progress and results

The total population served by the project is 28,065 individuals, (Women: 7,586, Men: 7,288, Girls: 6,727, Boys: 6,464) through different WASH interventions – ensuring access to improved water, sanitation facilities and key hygiene messages. Results achieved under each component of the project are:

Initial assessment for WASH needs: While conducting an initial assessment to identify the WASH needs of the community, it was observed that adolescent girls & women of menstrual age group are facing difficulty to access sanitary pads as they live-in far-flung areas on the hills having no access to markets – thus they prefer to use cloth. Also, there was limited awareness of menstrual hygiene among schoolgirls and community women. Thus, the menstrual hygiene component was more focused on upscaling the

interventions in government and private girls' schools and increasing the number of community entrepreneurs for MHH training.

Rehabilitation of drinking water supply systems (DWSS): The project supported 12,629 individuals (Women: 3,413, Men: 3,280, Girls: 3,027, Boys: 2,909) provided with safe drinking water through rehabilitation/restoration of 19 existing water supply systems. WASH committee members were trained on operation & maintenance (O&M) of the DWSS. A Water-testing lab was established at Tehsil Municipal Administration (TMA) and staff trained on water quality testing.

Improved access to sanitation: Improved access to user-friendly, gender-inclusive and culturally appropriate sanitation facilities for community and household use through the construction of 190 latrines for poorest households (identified with the support of village WASH committees), 10 persons with disability-sensitive latrines and 18 public latrines.

WASH in institutions: 1,500 students (765 girls, 735 Boys) in 10 primary schools – (5 boys and 5 girls' school) provided access to safe drinking water, sanitation and hygiene through rehabilitation/ installation of WASH facilities. School WASH clubs were formed to reinforce basic WASH messages on regular basis through club members. In addition, rehabilitation of WASH infrastructure in health care facilities and key hygiene messages on WASH and MHH were delivered to the visiting patients on daily basis through trained health workers.

Hygiene promotion & Social Behavioural Change (SBC) campaigns: 28,065 individuals, (Women: 7,586, Men: 7,288, Girls: 6,727, Boys: 6,464) were reached with key hygiene messages through education and awareness-raising on WASH practices including handwashing, latrine use and MHH. This included SBC interventions at the community level, mosques, and institutions (schools and health centres) by engaging social mobilizers, community resource persons, religious leaders, community entrepreneurs, teachers, and health workers.

MHH interventions in girls' middle & high schools: Furthermore, 14 girls' schools were provided with MHH-friendly spaces reaching 4,590 girls students to cater for their MHH needs. MHH clubs were formed and MHH resource units have been established to ensure the availability of MHH-related materials including IEC material to help girls know about menstrual health and hygiene management.

MHH entrepreneurship at the community level: At the community level six female entrepreneurs were selected and trained on MHH to manufacture and sell menstrual hygiene products in their communities. They were supported/ facilitated by the provision of an MHH Kit including a sewing machine and other items (one-time support) to produce different sizes of sanitary pads according to the demand of women & adolescent girls. These entrepreneurs also established a network within the women's community & girls' schools for spreading appropriate messages on MHH. The MHH entrepreneurship support had the double objective of improving hygiene management as well as promoting women's empowerment in the community.

■ Lessons learned and way forward

The following lessons were learnt from the project:

- Entrepreneurship program implementation was effective in breaking taboos related to menstruation as it is generally deemed socially and culturally unacceptable to be discussed openly.

However, working closely with the local population and adapting approaches that fit the local context and conditions has helped in reducing hesitancy among women and discussing more openly about MHH. Moreover, in far-flung areas like Chitral, having no access to markets, the MHH entrepreneurship program was effective in ensuring access to acceptable quality of sanitary pads locally available for women & adolescent girls to use.

- Many students do not attend school during menstruation days due to inadequate sanitation facilities and the non-availability of menstrual products. As per initial feedback from schoolteachers, the provision of water and latrine facilities in girls' schools equipped with menstrual hygiene products and conducting hygiene promotion sessions for children and teachers, has been helpful in reduction of absenteeism of girls during menstruation days.

Post-activity research/ assessment should be conducted to assess the sustainability of community entrepreneurship work. Furthermore, an assessment should be carried out on MHH practices in girls' schools to measure the per cent reduction of girls' absenteeism in schools during menstruation days. Moreover, it is important to identify opportunities for replication/scaling of similar interventions in other regions/ project areas to support adolescent girls and women for safe menstruation.

Related links:

- [Empowering women to practice safe menstruation](#)
- [Education Management Information system \(EMIS Pakistan\)](#)
- [JMP data](#)

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Case Study: **Sri Lanka**

#17 | July 2022

CLIMATE RESILIENCE OF COMMUNITY MANAGED WATER SUPPLY SYSTEMS IN RURAL SRI LANKA



■ Background

The rural water supply scheme (WSS) in Sri Lanka is threatened by multiple climate risks such as flash floods, droughts, landslides, and salinity intrusion. Those rural water supply schemes are managed by Community-Based Organizations (CBOs) and Local Authorities and offer water to 12% of the people who live in marginalized areas through piped systems. Even though Water Safety Planning (WSP) is introduced as a risk assessment and management tool for rural WSS, only 16% of rural WSS use WSP as a risk assessment tool and they hardly include climate-resilient interventions to mitigate climate risks. 74 % of WSS have been affected by the effects of climate change. The extension of WSP into Water Safety and Security Plans (WSSP) has been identified as an essential requirement for sustaining any water supply systems in rural Sri Lanka.

■ Strategy and implementation

Water safety is a crucial part of achieving SDG 6.1, 6.3 and 6.6. The UNICEF Strategic Plan, 2022–2025 focuses on water sanitation and hygiene systems, empowerment of communities and climate change, disaster risk reduction, and environmental degradation. As a vital component of the ongoing UNICEF Sri Lanka country programme from 2018 up to 2022, UNICEF has prioritized ensuring the water safety and security of community-managed rural water supply systems. The implementation of Climate-Resilient Water Safety and Security Plans (CRWSSP) integrates national programming into the global and local level strategic plans.

Globally the water sector is moving away from simple water testing and towards risk assessment and management. However, with the escalating risks aggravated by extreme climate events, the extension of these water safety and security plans has become an even more essential requirement for sustaining any water supply.

To understand potential issues of Sri Lanka's WSSP implementation in the rural sector, a baseline assessment of the existing situation of rural water supply systems managed by communities was initiated under UNICEF funding to:

1. Identify gaps and interventions required to improve sustainability while ensuring climate resilience
2. Prioritize CRWSSP implementation based on the information collected
3. Advocate for system improvements, based on evidence generated
4. Raise funds and locate resources locally to improve water safety and security CBOs managed water supply in rural areas.

The baseline survey was carried out by the Department of National Community Water Supply (DNCWS) using their and UNICEF's resources with the following steps:

1. Training 100 enumerators on WSSP approach and data collection tools
2. Disseminating and administering the questionnaire
3. Digitizing the collected data
4. Implementing the Climate-Resilient Water Safety and Security Plan programme based on the recommendation of the baseline assessment.

■ Progress and results

Following progress was made in the Climate-Resilient Water Safety and Security Plan programme:

1. This initiative supported the DNCWS to provide wider exposure to their staff and develop their institutional capacity. The capacity-building efforts generated the following results:
 - a) 100 Development Officers trained on Participatory Rural Appraisal (PRA) tools, and 6 steps of the WSSP approach in rural and climate risk assessments
 - b) 240 Development officers were trained on climate-resilient water safety planning
 - c) Sector coordination was strengthened through joint efforts made to implement CRWSSP at national, sub-national and community levels.
2. As a way forward UNICEF technically and financially supported relevant government partners to develop models on CRWSSP and the following results were achieved.
 - a) Developed models of climate-resilient water safety and security plans for different climatic zones
 - b) Scaled-up climate-resilient water safety and security plans with new knowledge and technologies such as Managed Aquifer Recharge (MAR)
 - c) Formed a technical working group to develop the national framework for the water safety plans in the rural sector and integrate climate resilience into the rural sector development plans and policies.
3. The implementation of the Climate-Resilient Water Safety and Security Plan programme generated the following results at the outcome level.
 - a) The transition of Community Based Water Supply Systems to climate resilience and adaptation
 - b) Influence on policy changes, and development of new policies at the local level
 - c) Institutional capacity building
 - d) Identification of potential investment priorities that need to be addressed in the sector.

■ Lessons learned and way forward

Lessons learned from this initiative are:

- 1) The CRWSSP need to be prepared with the complete involvement of the relevant CBOs and beneficiaries working with all stakeholders related to the catchment and the CBO needs to take

- a proactive role in complying with their assigned role and coordinating with the respective stakeholders for all activities.
- 2) CRWSSP extending the original WSP can be introduced as a risk assessment and management tool for rural water supply schemes. CRWSSP can be considered the best approach to establishing a preventive quality assurance system while ensuring water security.
 - 3) CRWSSPs at the community level need historical evidence of climate change and predicted climate future. The drinking water sector needs to move away from simple water testing toward risk assessment and management, considering both natural and anthropogenic stresses.
 - 4) With the escalating risks aggravated by extreme climate events, the extension of these water safety and security plans has become an essential requirement for sustaining any water supply with necessary policy level revisions and capacity building.

As a way forward, the DNCWS will scale up climate-resilient water safety and security plans in the rural sector taking a great stride towards progressive development of the DNCWS, providing wider exposure to their staff at different levels and resources to develop their institutional capacity.

Related links:

- [WHO Guideline for Climate Resilient Water Safety Plan, update July 2015](#)
- [Climate Change and Water, IPCC technical paper VI, June 2008](#)
- [Technologies for Climate Change Adaptation, Guidebook for the Water Sector, UNEP, April 2011:](#)
- [Technology Needs Assessment and Technology Action Plans for Climate Change Adaptation](#)

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SUMMARY

A WriteShop can boost the confidence of first-time authors significantly, as they are provided with appropriate guidance and support to develop a knowledge product. Although it requires a significant time investment, it does result in quality written products.

Overall, the WriteShop proved to be an effective way to increase the documentation of learning from the field and project results.

Knowledge is the only thing that grows when shared!

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