

Safely Reopening Schools: An innovative approach to safely reopening schools in the Kachchh District of Gujarat, India through strengthening the hand hygiene ecosystem

SUMMARY

The closure of schools due to the COVID-19 outbreak in 2020 adversely affected the growth and learning outcomes of children, especially in remote and low-income areas. Online education was promoted to reach children during lockdowns, but it had its limitations due to the digital divide and digital engagement limitations. Schools in the Indian state of Gujarat could only lastingly reopen after multiple attempts thwarted by COVID-19 waves.

Several studies have shown that handwashing with soap is one of the most effective measures to ensure safe school reopening by reducing the risk of infection among children, teachers, and staff. UNICEF Gujarat supported the State Education Department in planning, designing, and installing child-friendly and COVID-19 responsive handwashing stations in targeted schools of Gujarat's Kachchh district in India. The initiative examined the entire chain of safe hand hygiene (including infrastructure, behavior change, and capacity building) holistically and innovatively during this intervention to ensure sustainability. This field note outlines the planning, implementation methodology, challenges, achievements, and lessons learnt from the intervention to safely reopen schools and reduce COVID-19 risk for children, teachers, and staff.

Background

Prolonged school closures due to COVID-19 had compromised the education and growth of millions of children due to lack of access to continued education and other supporting services relating to health, nutrition, and water, sanitation, and hygiene (WASH) in schools.

The Government of Gujarat (India) announced the complete closure of schools from 15 March 2020 and shifted to online education across the state. However, the digital divide in remote areas

exposed many challenges for full engagement of children in the education system. The State Education Department made multiple attempts to reopen schools but were deterred due to the onset of the second (Delta) and third (Omicron) waves of COVID-19. With the successful implementation of vaccination programmes, the State Education Department announced the phased re-opening of schools from 1 September 2021^{1,2,3,4,5}.

Some areas were more affected by COVID-19 than others and needed support to ensure safe school reopening. Kachchh district in Gujarat cumulatively

reported 12,631 positive cases of COVID-19 during the first two waves that accounted for 62.37 per cent of total COVID-19 cases in the district), with the Bhuj block accounting for one-third of cases. Schools with low WASH service levels and situated in areas with high numbers of COVID-19 cases during the peak outbreak were at higher risk of infection while reopening and needed to be prioritized to ensure safe school reopening.

Hand and respiratory hygiene and COVID Appropriate Behaviour (CAB) programming are affordable and effective Infection Prevention and Control (IPC) measures. Global evidence suggests that handwashing with soap is associated with lower incidences of respiratory infections and even reduced chance of contracting COVID-19⁶. Hence, such behaviors were advocated by UNICEF and promoted by Education Department, Govt. of Gujarat in the day-to-day lives of students and staff for safe school reopening and smooth return of children to schools.

UNICEF complemented the efforts of the government through innovative COVID-responsive handwashing station (HWS) designs and strengthening of related ecosystems for safe school reopening in Gujarat.

Problem Statement

Limited access to safe hand-hygiene services in schools increased the risk of children towards COVID-19 while returning to schools after lockdown in high COVID-19 risk areas of Kutch district, Gujarat (India). Additionally, the conventional hand washing station design increases the high touch surfaces and higher infection risks.

Objectives

The intervention was designed, planned, and implemented in consultation with the Government of Gujarat's State Education Department to achieve the following objectives:

 Responding to the needs of safe school reopening processes by addressing, i) the contextual requirement of child-friendly

- COVID-responsive (touch-free) handwashing stations and ii) provide support with school-level hygiene kits for improved hygiene practices.
- Strengthening the capacities of stakeholders of Education department and support convergence with key sectors such as health and child protection.
- 3. Enabling good hand hygiene practices and CAB through effective Information, Education and Communication (IEC) for teachers, students, and staff.

Implementation methodology

Selection of Schools: 117 high-risk schools were selected from the Kachchh district. The Education Department, Government of Gujarat, and UNICEF Gujarat selected the schools by jointly conducting a WASH-COVID risk assessment exercise, based on indicators such as high scale of COVID-19 outbreak and lower WASH service compliance in schools.

Collaborative Planning: After the selection of schools, district and block level Education department officials, teachers, engineers, and design experts of implementing partner – All India Disaster Mitigation Institute (AIDMI) along with local vendors collaboratively developed a work plan.

Capacity building of stakeholders: First, a block-wide training program covering 117 schools was conducted by UNICEF through an implementing partner for disseminating key messages on COVID preparedness at the school level. The training also focused on developing IEC products and conducting a technical assessment with teachers and school staff to determine the feasibility of installing COVID compliant foot operated HWS.

Designing COVID-responsive HWS through participatory process:

The appointed implementing partner conducted a technical assessment of the 117 schools to map the gaps in existing handwashing infrastructure.

Based on assessment findings and the inputs received from teachers, staff and district level officials, the design of the handwashing stations was finalized. The key design element for COVID-responsiveness was inclusion of foot-operated mechanism for operating water and soap dispenser. Additionally, special attention was accorded to the supporting systems such as water supply inlets and safe disposal of wastewater. The height of the foot operated hand washing stations was decided based on anthropometric standards, pilot testing at Block Resource Coordinator office, and consultation with schools.

A height of 650 mm for single sink handwashing station was decided by design experts with feedback from schools. Handwashing stations with multiple sinks having differential heights – 650 mm for children from ages 11 to 17 and 450 mm for children from ages 3 to 10. Anthropometrical consideration of 50th percentile height data of Indian school children from LSES (Lower socioeconomic strata) and USES (Upper socioeconomic strata) also suggested the same and was adopted in designing the handwashing station⁷.

Figure 1: Design and installation of foot operated HW stations supplemented with IEC material and hygiene kits

FRONT VIEW TOP VIEW T

Integrating local resources for long-term sustainability: The implementing partner, AIDMI trained local resource persons and made them part of the implementation process. As part of the capacity building component, local vendors were trained to build handwashing stations, local masons were trained to install the required support

infrastructure (soak pits, plumbing, water inlet etc.) and minor repairs; and local drivers were trained and deployed for delivery to the targeted schools. Fully functional handwashing stations were handed over to the school head teacher with an agreement outlining the responsibilities for proper operation and maintenance of the system including availability of water and soap.

Project Deliverables

A demonstration model of a COVID-responsive foot-operated HWS was installed at the Block Resource Coordinator office. After receiving inputs on the model from various stakeholders including field functionaries, the final designs of the handwashing stations were fabricated at scale. This process included the identification of necessary variations around number of sinks needed depending on space availability and number of users.

Vandalism and natural hazards, such as cyclones, were mapped to be key potential risks to installed HWS. Therefore, UNICEF and the implementing partner designed the HWS to be lightweight (approx. 22 kg) and detachable for keeping inside the school building during natural calamities. Number of sinks in HWSs were decided based on the number of users and availability of existing infrastructure.





AIDMI, with support from the Block Resource Coordinator, Cluster Resource Coordinators, and school administrators installed the finalized units in 117 schools. New installations included one to four sinks and retrofitting of existing taps to make them COVID-responsive. In total 20 taps were retrofitted, and the following type of HWSs were installed:

HWS 1 sink in 59 schools, 2 sinks in 52 schools, 3 sinks in 5 schools and 4 sinks in 1 school.

Additionally, schools were provided with one of three different hygiene kits depending on the need and size of the school. The hygiene kits included soap, alcohol-based hand rub (ABHR), liquid handwash, disinfectant, cleaning supplies, sanitary pads, masks, gloves, nail cutter and a mirror. The kit was designed to sustain environmental cleanliness, maintenance of HWS and regular soap usage for three months. Furthermore, IEC materials with key messages were disseminated to nudge COVID responsive behavior change. This included 13 posters carrying key messages on COVID-19 preventive measures - Do's and Don'ts, use of masks, scientific methods of handwashing, etc.

Around 240 teachers across 117 schools were trained on 'Safe School Re-opening and Handwashing' with a focus on operation and maintenance of the HWS. Teachers also started using a WhatsApp group to exchange information, techniques, technologies, challenges and related solutions for operation and maintenance.

HWS Financing

The costs associated with installation of handwashing stations have been tabulated below:

Figure 2: Approximate costs associated with each type of handwashing station

S. No.	Particulars	Unit Cost (INR,000)	Unit Cost* (USD)	Units Installed	Total Cost (INR,000)	Total Cost (USD ,000)
1	HWS- 1 sink	12 - 13	151 - 164	59	737.5	9.293
2	HWS - 2 sinks	22 - 26	277 - 328	52	1,248	15.73
3	HWS - 3 sinks including partition	39 - 46	492 - 580	5	127.5	1.608
4	HWS - 4 sinks including partition	46	580	1	46	0.58
5	Retrofitting - Foot operated tap	0.6 - 1.2	8 - 15	20	18	0.23
	Total			·	2,177	27.440

^{*} As per the exchange rate of 1 USD = Rs. 79.27 as on 29th July 2022

The cost of designing, setup and installation of handwashing stations were facilitated using Humanitarian Action for Children (HAC) funds of UNICEF.

Fully functional handwashing stations have been handed over to the school head teacher with an agreement outlining the responsibilities for proper operation and maintenance of the system including availability of water and soap.

Annual O&M cost are estimated at 2,900 Indian Rupees (US \$37). The schools are managing the O&M costs with the funds received under composite grant (10 per cent is dedicated to cleanliness related activities) and Swachhata Kit (Cleanliness Kit) provided annually by Education department of Gujarat.

Project Achievements

Schools selected under the intervention showed improvement in WASH compliance as per end line benchmarking, leading to safe school reopening. WASH in Schools (WinS) benchmarking uses the Swachh Vidyalaya Package (Clean School Package) defined by Ministry of Education to assess schools on 59 performance indicators leading to a school rating between one and five stars. The indicators are framed across 6 components - Water, Toilet, Handwashing with soap, Operation and Maintenance, Behavior Change and Capacity Building, COVID-19 preparedness, and response.

As this intervention targeted low performing schools (one and two stars as per the baseline) in high COVID-risk areas, great improvements could be observed. As per post-intervention benchmarking, 96 schools out of 117 reported improvements in overall WASH compliance to three-star and above, resulting in an 82 per cent improvement over the baseline results. Furthermore, the performance of the targeted schools was specifically analyzed across the star rating on indicators pertaining to Handwashing with Soap.

Figure 3: Progress of Handwashing compliance

BOX 1. KEY HIGHLIGHTS

UNICEF and partners provided 117 schools with 182



2-Star (2022) 4-Star (2022) 5-Star (2022) Total rating 21 2 1-Star (2020) 1 5 10 11 28 2-Star (2020) 2 5 15 9 56 25 3-Star (2020) 1 4 5 12 4-Star (2020) Total 6 9 28 26 48 117

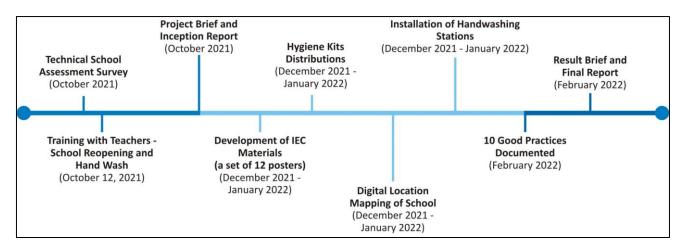
Source: Swachh Vidyalaya Assessment Nov 2020 (Baseline) and March 2022 (End line)

The above data represents the change in handwashing compliance pre- and post-intervention. The improvement can be attributed to the targeted strengthening of hand hygiene

systems in schools across Bhuj block of Kachchh district, resulting in safe school reopening. Out of 117 schools, 84 schools (71.8 per cent) reported an improvement in handwashing with soap indicators post-intervention (2022) in comparison to 2020.

Figure 4: COVID-19 Preparedness innovations

Figure 5: Timeline of work done to strengthen the ecosystem for hand hygiene in schools in Kachchh district



Results Brief

Result component	Performance indicator	Intended coverage	Actual coverage
Risk communication and school community engagement	Number of School stakeholders sensitized on hand hygiene and use of a mask for IPC.	117 schools covering 19,946 students, teachers, and community members.	117 schools covering 19,946 students, teachers, and community members reached out for the awareness building on IPC.
	Number of School stakeholders oriented on the use of HWS and hygiene kits for IPC.	117 schools covering 19,946 students, teachers, and community members.	117 schools covered in orientation, installation of IEC products, distribution of hygiene kits, and installation of HWS.
Capacity building and convergence with critical stakeholders	Number of teachers trained on COVID risk reduction activities and safety protocols.	Teachers from 117 schools.	151 participants from 117 schools and 34 CRCs trained through direct school visits.
	Number of meetings held with stakeholders.	4 to 6 institutions.	DDMA, Health Department, Education Department, Panchayati Raj Department, District Child Protection Offices and Child Rights Collective Group (network of CBOs) were involved in delivering project outputs.
Infection prevention and control measures	Number of COVID-compliant HWS installed and operationalized for IPC.	117 schools covering 19,946 students, teachers, and community members.	117 schools in which 182 HWS units and 20 retrofitted taps were installed based on their requirements.
	Number of hygiene kits distributed to high-risk targeted schools.	117 schools covering 19,946 students, teachers, and community members.	117 schools were provided with one hygiene kit each.
Evidence-based documentation	Number of best practices identified and documented.	Identify and document 10 best practices.	10 best practices have been identified and documented.
	Number of project brief and result briefs produced.	Develop project and results brief.	2 Project and 1 results briefs were developed.

BOX 2. BEST PRACTICES BY SCHOOLS IN KACHCHH DISTRICT

Co-creation of interventions:

- User driven design: Design of foot operated HWS finalized through participation of key stakeholders.
- **Design to Co-design:** IEC products were finalized through participation of teachers from 117 targeted schools.
- **Students as Leaders:** Students adopting COVID-appropriate behavior, following, and supporting safety measures and learning from the provided IEC products.
- **Moving from Need to Demand:** Joint assessment exercise for informing the need and then supplying handwash stations to address the generated demand.
- Government ownership: Installation of foot operated HWS with involvement of multiple government stakeholders

Leveraging existing resources, enabling environment and services

- Augmenting Existing Services: Retrofitting handwashing taps to make them COVID-responsive.
- Leveraging Private Sector Support: Food security and WASH supported actions at school level.
- **WASH to Vaccination:** Targeted schools with COVID-responsive HWS complemented COVID-19 vaccination drive.
- Additional strategic measures: Soak pits constructed for treating wastewater from foot operated HWS.
- **Using power of social media:** Educating school level stakeholders on COVID-appropriate behaviours through videos circulated on social media during the pandemic.

Lessons Learnt

- Making handwashing a joyful and safe activity: Hand hygiene is one of the most important IPC measures to reduce the risk of current and future epidemics and pandemics. Creating child-friendly handwashing facilities while keeping them COVID-responsive enables the adoption of good hygiene practices with joy and safety among children. This also trickles down to households and the community.
- A participatory evidence-based approach to designing community assets:
 - Designing COVID-responsive WASH infrastructure in schools requires an in-depth assessment of factors such as availability of water, storage facilities, drainage connection, number of students, building structure, layout, existing services, and age group of students.
 - A participatory approach to design leads to appropriate designs which lead to user comfort and long-term sustainability of the

- product, e.g., adding handles on both sides of the handwashing station to enable lifting in case of emergency relocation or proper connections with soak pits for safe disposal of wastewater.
- Participation of stakeholders during the design and implementation process brought out the nuances of practical usage leading to sustainability of the intervention through improved ownership. Participatory workshops at the end of the project focused on documenting the understanding of teachers on operation and maintenance needs through playing cards with images of different stages of implementation and use.
- Creating scientific awareness about the pandemic among students and teachers makes schools safer and contributes towards stopping the spread of infection at community level, especially where children are acting as "agents of change" and aid in disseminating key

messages to their families and within their neighborhoods.

Figure 6: UNICEF Gujarat facilitated the development of IEC materials and AIDMI adopted it for the intervention.



- Local leadership is imperative: Leadership
 from teachers is imperative in influencing
 attitudes and behaviors of students towards
 WASH and COVID-19 preventive measures. The
 intervention has created an environment that
 enabled teachers through training and IEC
 materials to use scientific messages to nudge
 students towards good hand hygiene practices.
- Importance of collaboration: A collaborative engagement with district, block, cluster, and school functionaries is vital to ensure effective implementation and sustainability of childcentered interventions in schools.
- Capacity development of service providers:
 The project trained local plumbers and drivers in installation of foot operated HWS including soak pits, and water storage tanks. This process of engagement of local resources not only decreased implementation time, but also built local capacities.
- Design features: Touch-free feature in HWS should be permanently added and not be seen as temporary element during COVID times, as it will help with the reduction of other infections too. To ensure sustainability and cost-effectiveness, the decision to install either a new foot-operated handwashing station or retrofitting the existing handwashing facility making it COVID-responsive should be taken up in consultation with the School Management Committees.

Next Steps

- District officials (District Education Officer, District Primary Education Officer) and schools to take up regular maintenance and use the provided hygiene kits for effective hand hygiene in the schools targeted by the intervention.
- Contextualized scale up of the intervention to be explored in other high-risk schools by UNICEF and the Education Department.
- Knowledge management through the documentation of success and case studies of the intervention to enable evidence-based scaling and capacity building of further stakeholders in the future.
- Capacity building of local vendors for the fabrication of low-cost and innovative touch-free HWS, to respond to future needs in the district. This would ensure optimization of time, finances, and lead to a self-reliant district in the intervention area.
- Advocating the need to invest time and resources in programs that facilitate convergence between pandemic and disaster preparedness and WASH.

Conclusion

The intervention for strengthening of the hand hygiene ecosystem in Kachchh District of Gujarat has resulted in the installation of child-friendly COVID-responsive handwashing infrastructure, enhanced local capacities, and created awareness among schools and communities on COVID-19 appropriate behaviour. The targeted schools were also supported with an adequate supply of hygiene kits for daily use. Results were achieved by partnering with local authorities and stakeholders such as the District Education Officer and District Primary Education Officers, the Block Resource Coordinator, Cluster Resource coordinators, other government departments including the Health Department and District Disaster Management Authority, teachers, engineering, and design experts of implementing partner and local vendors. As a result, the project reached 117 schools covering 19,946 children and 509 teachers.

Voices of Stakeholders

The District Primary Education Officer expressed that the project was a welcomed intervention in which the activities were demand-driven, designs were finalized through a participatory approach, and the solutions to each ground-level challenge were collaboratively addressed.

"The school is taking leadership to maintain the provided units and materials. We have received the handwashing station and hygiene kit with orientations and trainings. At our school (Sheth V. D. High School), we have delegated operation and maintenance responsibilities among the staff. The experience is useful for us to take hand hygiene in our schools to an improved level."

–Dr. U. H. Hathi, Principal, Sheth V. D. High School



"(This intervention) provides not only safety against the COVID-19 pandemic, but also overall improvement in WASH behaviors at school level."

> - Smt. S. U. Solanki, Shri Mirzapar Primary Kumar Shala, Bhuj



"The user-friendly handwashing stations visually attract students to wash their hands. Students also now follow suggested guidelines. We believe our school now has improved standards in overall WASH compliance. Thanks to UNICEF and the Education Department, Government of Gujarat for the practical work on safe school re-opening."

Laxmanbhai K. Parmar,
 Shri Lakhond Kanya Shala, Bhuj



"We organize orientation sessions on safety against COVID-19 for students from time-to-time. The orientation session is one of the key output of UNICEFs last three months' activities in our school. Many Thanks."

- Khushbuben Sarvaiya,

Principal, Shri Dhori Kanya Primary School, Bhuj



"The Partnership with the Block Resource Coordinator under the intervention resulted in very effective work with 19,946 students and 509 teachers from 117 schools of Bhuj. The dynamic team of AIDMI is very committed to the planned work carried out during a challenging time. We are thankful to the leadership of DPEO and UNICEF."

- Shri Haribha Sodha, Block Resource Coordinator (BRC), Bhuj



"I found the visual materials highly informative and useful. Through these materials, I have learned about science, sociology, human behaviour, and the pandemic at my school. Similarly, the poster on Do's and Don'ts at my house has helped in educating my family members on COVID-19 appropriate behaviour to prevent the spread of the virus."

- Gayatri Ranchhodbhai Varotra, Student, Class 7th, Dhori Vadi Vistar School, Bhuj

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