

HAND HYGIENE FOR ALL



A report on innovative hand hygiene
products and solutions

This report is based on a joint initiative between UNICEF and ISC-FICCI called the **National Competition on “Identifying innovative products and solutions for Hand Hygiene for All (HH4ALL)” – The Hand Hygiene Hackathon**, which was undertaken in 2021–22.

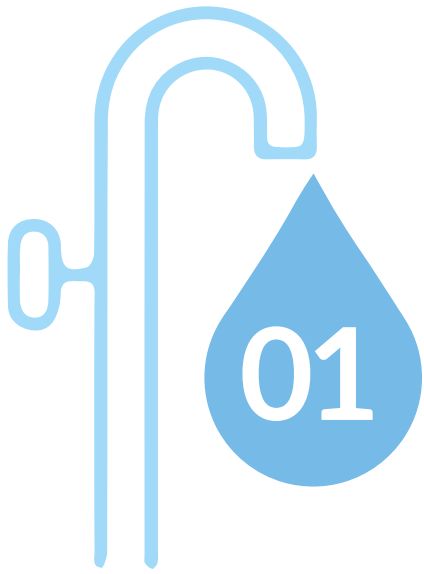


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Introduction



Hand hygiene is one of the most critical steps in preventing the transmission of various diseases related to water, sanitation and hygiene (WASH), including diarrhoea and cholera, as well as respiratory illnesses such as COVID-19. In many situations, however, both access to hand hygiene facilities and support for essential behaviours are lacking. Although the World Health Organization (WHO) has developed hand hygiene standards for healthcare settings and provides routinely updated materials, there is no globally accepted definition or normative advice on hand hygiene for families, schools, or other settings.

To understand how the launch of Swachh Vidyalaya Abhiyan has impacted WASH services in schools across India, WaterAid India assessed 453 schools in 34 districts across 9 states. The report revealed that, when compared to the availability of water and toilets in school, the presence of hand washing facilities lagged, as 31 per cent of the schools assessed did not have hand washing facilities outside the toilet. One-third of the schools had no running water for hand washing, while a little over half did not have soap near toilet facilities.



In the Indian context, the reach of hand hygiene practices is far from expected. According to the 76th round of the National Sample Survey (NSS) report (2018-19), 35.8 per cent of household members (55 per cent urban, 25.3 per cent rural) reported washing their hands before eating, while 74.1 per cent (88.3 urban, 66.8 per cent rural) reported washing their hands with soap after defecating.



In June 2020, another survey on hand hygiene during the COVID-19 pandemic was conducted by WaterAid India across 6 states with a total sample size of 797 households. The results disclosed that the need for hand washing before feeding children (44 per cent) and after wiping a child's bottom or disposing of child faeces (38 per cent) is not well understood.

Figure 1 : Use of makeshift wash basin



Source: WaterAid



Figure 2 : Hand washing with soap



Source: WaterAid

Figure 3 : A man washing his hands from tube-well water



Source: WaterAid India

“

Hand washing knowledge during COVID-19 was similarly poor, with just 34 per cent knowing they must wash their hands after sneezing, 23 per cent after contact with widely used surfaces and items, 23 per cent after contact with a sick person, and 61 per cent after returning home from outdoors.¹ While soap was widely used to clean hands in general (91 per cent) and in the context of the COVID-19 pandemic (95 per cent), one-quarter of households reported using more than one water source for hand washing, with 41 per cent using piped or stored water with a tap and 57 per cent using water from a handpump or stored water without a tap.

”

¹ Hand Hygiene for COVID-19 and beyond in India, WaterAid India, 2021



Figure 4 : School girls hand washing with soap



Source: UNICEF

The lack of a tap connection adversely impacts the effectiveness of hand washing by making it difficult to clean both hands together without help.

More recently, in a sample survey of over 2,000 schools, which was tabled in parliament in September 2020, the Comptroller and Auditor General (CAG) revealed that more than half of the government school toilets built by central public sector enterprises across 15 states (2,695 toilets across 2048 schools in 15 States) lack even basic hand washing facilities. This is an even greater necessity in COVID-19 times.

The unavailability of running water continues to affect the health of school children, according to the study. The benefits of hand hygiene in preventing the transmission of infectious diseases have been known since 1850. For

example, proper hand hygiene has been proven to reduce deaths from respiratory and diarrheal diseases in under-five children by 21 per cent and 30 per cent, respectively. Yet in 2021, an estimated 2.3 billion people globally could not wash their hands with soap and water at home, and one-third of the world's health facilities lacked hand hygiene resources at the point of care. Meanwhile, nearly half of all schools worldwide did not have basic hygiene services, affecting 817 million children.²

Quoting the statement of Mr Nicolas Osbert, Chief, Water, Sanitation, Hygiene (WASH) programme, UNICEF India, *“when it comes to promoting the concept of hand washing, two years of the COVID-19 pandemic achieved what UNICEF, WHO and development agencies could not in two decades.”*³

² <https://www.indiawaterportal.org/articles/hand-hygiene-public-policy-issue>

³ <https://www.news-medical.net/news/20220228/COVID-19-provided-an-opportunity-to-promote-handwashing-in-South-Asia.aspx>



Figure 5 : Hand washing from an innovative washing station



Source: weforum.org

Indeed, the COVID-19 pandemic did give an impetus to the promotion of hand hygiene and brought the importance of hand washing facilities to the fore. However, even this progress is far too slow.

Clearly, the journey is far from over and much remains to be done.

The rate of improvement in basic hand washing practices between 2015 and 2020⁴

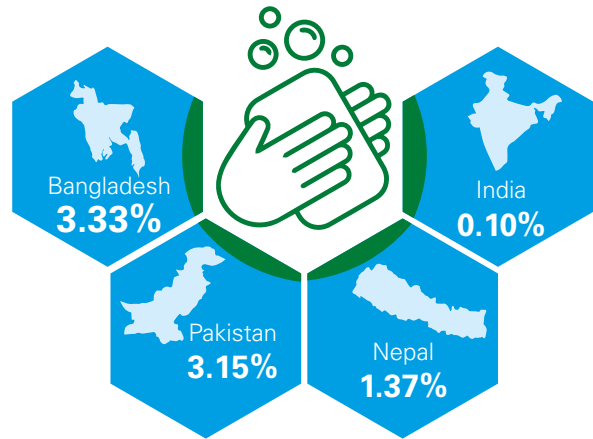
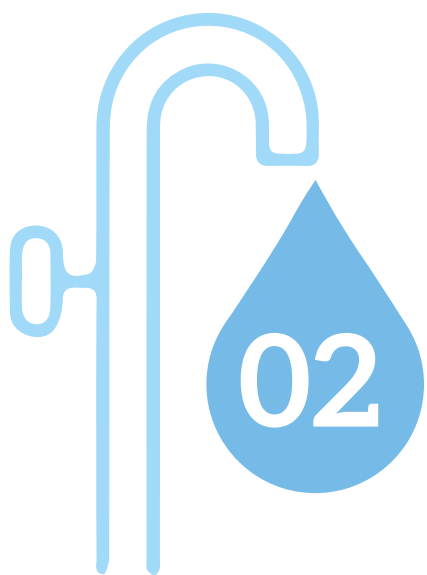


Figure 6: Hand washing Session by Anganwadi Worker



Source: Vinay Panjwani

⁴ The Joint Monitoring Programme Report for WASH released by UNICEF and WHO in July 2021; <https://medicalxpress.com/news/2022-02-covid-boost-handwashing-south-asia.html>



Rationale for the initiative



Wash your hands! These are perhaps the three most important words the world has heard since the outbreak of COVID-19 – the worst pandemic to hit the world in 100 years. Even during the pre-COVID times, hand washing was considered a cost-effective public health intervention for reducing the disease burden, but its importance and practice always remained a challenge, especially in India.

As a matter of fact, in India, hand hygiene promotion has so far been sporadic and reliant on specific government initiatives or is a response to a crisis such as the COVID-19 pandemic. It is critical to mainstream hand hygiene promotion in order to gain social and economic advantages and avoid future public health calamities.

“

*In June 2020, UNICEF and WHO announced **Hand Hygiene for All (HH4All)**, a worldwide programme to accelerate and scale up hand hygiene activity in response to the COVID-19 pandemic.*

”

This initiative aimed at mobilizing governments and partners from the development, education, and research sectors, as well as the private and civil society sectors, to strengthen the hand washing infrastructure at the institutional level, including schools, anganwadis, health centres, workplaces and public spaces, particularly among the poor and vulnerable.

Every year, October 15 is observed as Global Hand washing Day to raise awareness about the importance of hand washing with soap

and water at home, in the community, and around the world, as well as to serve as a yearly reminder that hand washing with soap and water is one of the most crucial steps that can be taken to prevent the transmission of various WASH-borne diseases. This year's theme is “health care quality and safety climate or culture,” which values hand hygiene and infection prevention and control (IPC), with the slogan “Unite for safety: clean your hands.”

Hand hygiene is critical in laying the groundwork for a healthy life for any human being. Hence it will be highly important for all WASH stakeholders, including concerned central and state ministries, and private sector players, to include hygiene promotion as one of the vital components in their existing programmes.

Figure 7: Hand washing to improve the hygiene condition



Source: UNICEF

Additionally, as we get closer to achieving the SDG goals by 2030, hand washing with soap becomes increasingly important, as target 6.2 for sanitation and hygiene of SDG 6 calls on the global community to achieve access to adequate and equitable sanitation and hygiene for all by 2030. Indicator 6.2.1b tracks the proportion of population with a hand washing facility with soap and water on the premises.



Attainment of the targets on hygiene and hand washing is indispensable due to their correlation with other SDG targets such as those on child survival, nutrition, education, equity, and gender. However, if we are to truly effect change and meet these targets by 2030, we must think 'out of the box' and introduce, promote and scale-up innovative products and solutions to promote hand washing with soap.

Status of the hand hygiene market in India

At the start of the COVID-19 pandemic, health experts highlighted hand washing as a key measure, yet in 2021 an estimated 3 in 10 people worldwide (2.3 billion) were not able to wash their hands with soap and water at home.⁵



As per the "Progress on household drinking water, sanitation and hygiene, 2000–2020: Five years into the SDGs" report by UNICEF and WHO, from 2015 to 2020, half a billion people gained access to basic hand hygiene facilities – a rate of 300,000 per day.



Though this may be considered progress, at this rate, almost two billion people will still lack access to basic hand hygiene facilities by 2030, negatively impacting other development priorities, including education, health, nutrition, and economic growth.⁶

Two components of hand hygiene market in the Indian context



Hand washing basin/station



Hand hygiene products such as liquid hand wash or hand sanitizers

Hand wash basin manufacturers in India include Nilkamal, Lixil, Jaguar, Kohler, and others. However, most of the designs by these manufacturers are either very expensive or not very innovative or sustainable in terms of water savings or raw material usage, etc. As a result, there is a massive demand-supply gap.

Figure 8:

Community hand washing with soap



Source: UNICEF

In 2020, the soap market in India was estimated to be worth approximately INR 195 billion. The market is expected to grow at a CAGR of 7 per cent between 2022 and 2027.⁷ This presents a huge opportunity for improved availability of high-quality yet affordable hand hygiene goods and services so that hand washing occurs in

⁵ <https://www.who.int/news/item/01-07-2021-billions-of-people-will-lack-access-to-safe-water-sanitation-and-hygiene-in-2030-unless-progress-quadruples-warn-who-unicef>

⁶ <https://data.unicef.org/resources/progress-on-household-drinking-water-sanitation-and-hygiene-2000-2020/>

⁷ <https://www.expertmarketresearch.com/reports/india-soap-market>



more places and at all critical moments for healthier, more resilient communities. The private sector plays a key role in this.

To a certain extent, increased demand for hand hygiene products in the Indian market may be attributed to COVID-19. The demand is expected to reach INR 2159.5 crore by the year 2025.⁸

Hand hygiene, however, ought to be a long-term priority rather than just a concern for COVID-19 because it can help emerging economies in reducing the burden of disease and supporting pandemic preparedness well into the future.

However, this would necessitate significant commitment, investment, and collaboration on the part of both the government and the private sector. A recent UNICEF and WHO study titled “State of the world’s hand hygiene” to understand the cost of providing universal access to hand hygiene in 46 of the world’s least-developed countries by 2030, estimated

the cost to be US\$11 billion per year – *the equivalent of the amount spent during Amazon’s Prime Day shopping event in June 2022.*⁹ The installation of hand washing facilities alone was estimated to cost USD 174 million!.

Given the foregoing, one of UNICEF’s key priorities in the year 2021–22 is to “Identify and Promote Product Innovations and Business Solutions on Hand Hygiene Washing Stations,” and its engagement with the India Sanitation Coalition (ISC) at FICCI is a significant step in this direction, as this partnership is meant to strengthen these two components of hand hygiene.

FICCI, which is the voice of India’s business and industry and is the largest conglomerate of the Indian private and public corporate sectors and multi-national companies reaching out to over 2.5 lakh companies, places ISC in an advantageous position as far as achieving the aforesaid objective is concerned.

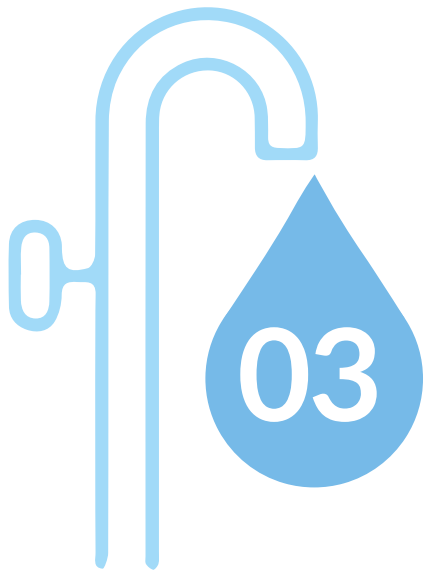
Figure 9: Hand washing station with soap dispenser



Source: Stockholm International Water Institute (SIWI)

⁸ Report on India Hand Hygiene Market Size Outlook by 2025, Research and Markets, 2020

⁹ <https://www.digitalcommerce360.com/article/amazon-prime-day-sales/>



Objectives of the project

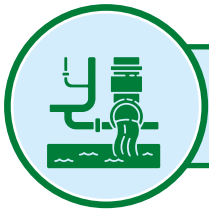


Strengthen the Indian hand hygiene market by identifying innovative products and solutions for HH4ALL interventions by organizing a national competition, which will have two categories:

- ◆ Category 1: Innovative Hand washing (HW) infrastructural products, which are low-cost and easy-to-maintain sustainable models. ISC would promote/scale up the most relevant ones through FICCI's industry platform.
- ◆ Category 2: HW infrastructure management systems at the community /institutional levels with a focus on operation and maintenance.



Pilot five prize-winning HW infrastructure designs (2 pilots each for 5 designs, a total of 10 pilots in multiple geographies).



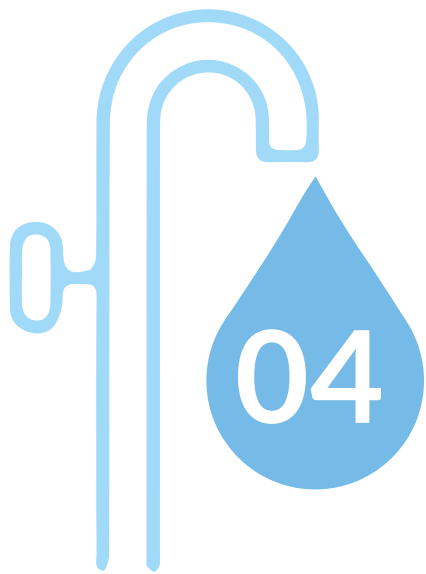
Promote innovation and cost-effective sanitation infrastructure.



Document the successful prize-winning management systems.



Support online knowledge hosting and cross-learning platforms that work on knowledge management in WASH, including for hand hygiene.



The hand hygiene hackathon



As a first step to identify innovative hand washing infrastructure design and management systems, ISC organized a national competition on “Identifying innovative products and solutions for Hand Hygiene for All (HH4ALL)” – the Hand Hygiene Hackathon – in collaboration with UNICEF India.

“ To maximize entries, a call for nominations was designed and an aggressive outreach plan was devised by engaging media platforms – both print and digital.

Additionally, a comprehensive list of approximately 100 potential applicants was compiled which included universities, sector experts, organizations working in the hand

hygiene space, individuals, and so on. and constant engagements were conducted to encourage them to apply. Furthermore, a notification (in the form of a news article) about this competition was published in the Delhi edition of “The New Indian Express,” which is one of India’s leading daily English-language newspapers, published by Chennai-based Express Publications.


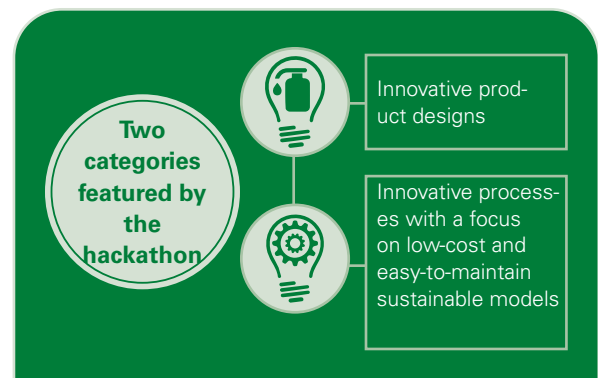
A pre-proposal submission webinar was held to address questions from potential candidates. During this webinar, an exhaustive presentation was made and details of the competition, evaluation criteria, timelines, deliverables, etc. were explained. Please click the play button  to access the session’s recording.

Figure 10: Newspaper clipping to advertise the hand hygiene hackathon



Source: New Indian Express



Aside from the chance to showcase their innovation on the FICCI platform, the winners were promised a cash award. The category 1 winners were to receive further assistance in the form of handholding support from prototype development to field piloting from the industry’s leading mentors/hand washing experts.

Adjudication process:

Due to an extensive outreach, more than 50 entries were received across the two categories of the competition. These entries

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were scrutinized through a rigorous two-stage jurying process.

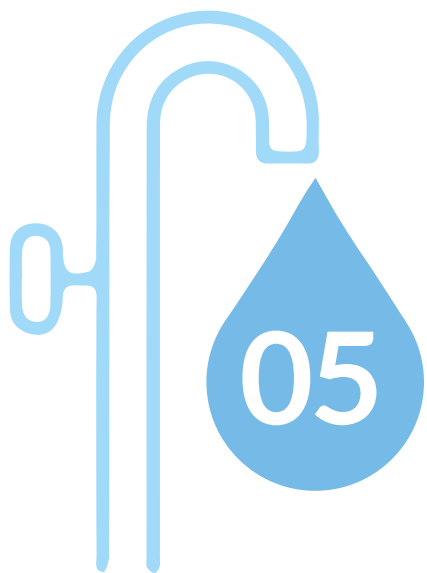
In the first round, the entries were scrutinized at the ISC secretariat level by employing a customized version of Padma Vibhushan Dr. R.A. Mashelkar's **ASSURED Framework**, as detailed in his book "Leapfrogging to Pole-vaulting: Creating the Magic of Radical yet Sustainable Transformation." For the second and final round of jurying, 13 applicants for the Product Innovations category and 5 applicants

for the Process Innovations category were chosen. In the second round of adjudication, jury meetings were held for each of the two categories, during which the applicants elaborately presented before an eminent jury made up of members from corporates, incubator agencies, development partners working in the space of hand hygiene, gram pradhans, etc. The presentations were followed by question and answer sessions, after which 8 winners in category 1 and 3 winners in category 2 were chosen.

Figure 11: Sanitary workers line up for hand washing at the contact free hand wash station



Source: Soumi Das



**Hand
hygiene
hackathon
awards
ceremony**








In order to encourage these young innovators and promote their innovations through adequate industry exposure, an in-person awards ceremony was organized on 6 April 2022 at the FICCI Delhi office. In addition to government dignitaries, representatives from international NGOs and corporates were invited to the event.

The event was presided over by Ms Vini Mahajan, Secretary, Government of India, Department of Drinking Water and Sanitation (DDWS), Union Ministry of Jal Shakti; Mr Arun Baroka, Special Secretary, DDWS; Ms Naina Lal Kidwai, Chair, India Sanitation Coalition; Mr Nicolas Osbert, Chief of the Water, Sanitation, Hygiene (WASH) programme, UNICEF India; and Ms Natasha Patel, CEO, India Sanitation Coalition. More than 75 corporates and international NGO

representatives attended the awards ceremony. Ms Vini Mahajan gave away the prizes to the eight distinguished winners and runners-up.

The winners have also received global recognition from the UNICEF global division, as well as SuSanA, which is willing to showcase the innovative products on their knowledge platform. Additionally, Digital Impact Square (DISQ), a Tata Consultancy Services (TCS) Foundation initiative and a social incubator, has offered to handhold and mentor the winner of the product innovation category for the successful prototype development and piloting of the innovative hand washing station. The event also gained traction among corporates who were impressed with the innovative models. Some of them have even shown interest in taking the innovations forward.




The details of the winners are mentioned below:

Category 1: Innovative product designs			
Name of individual/team/institution	Position	Prize Amount (INR)	Innovative design video
Manish Jadhav, IIT Madras; Master in Design, National Institute of Design, Bengaluru campus	Winner	100,000	Please click the play button  *
Team MAHV, Indian Institute of Science, Bangalore	First runner-up	50,000	Please click the play button  *
Team MAGNA, Indian Institute of Science, Bangalore	Second runner-up	50,000	Please click the play button  *
Team WASHOO, Indian Institute of Science, Bangalore	Special mention	25,000	Please click the play button  *
Gaurav Saxena, Happy Taps	Special mention	25,000	Please click the play button  *

*The play button shall work and lead to the playing of a video only in the digital version of the report



Category 2: Innovative processes

Name of individual/team/institution	Position	Prize Amount (INR)	Innovative design video
AGA Khan Foundation	Winner	100,000	Please click the play button  *
Kendriya Vidyalaya No.1 Roorkee	First runner-up	50,000	Please click the play button  *
Citizens Association for Child Rights	Second runner-up	50,000	Please click the play button  *

Profile of the winners for each category

Category 1: Innovative product designs

1. Model: Jaldhan

Name of the Winner: Manish Jadhav

Rank: 1st

Manish Jadhav is currently working at the Rehabilitation Research and Device

Development Lab, IIT Madras. He has experience in the production industry and holds a master's degree in design from the National Institute of Design in Bengaluru. His project focused on creating an inclusive and accessible (modular) hand wash station using a low-cost material solution that has the potential of being manufactured in the least economic areas of India (such as the forests of Meghalaya, Thar desert, Sikkim, etc.).

Figure 12:

Ms Vini Mahajan, Secretary-DDWS and Ms Naina Lal Kidwai, Chair-ISC felicitating Mr. Manish Jadhav, winner of Hand Hygiene Hackathon





“

He designed JALDHAN – an accessible and inclusive hand wash station. This hand wash station’s frame is built of bamboo, which is readily available throughout India, usually free of cost, and is easy to work with.

”

The bamboo frame can be made with the assistance of locals, weaving groups or craftspeople. Most of the parts in the assembly need to be either picked and placed or bolted or tied together. It is an easy design that can be built from scratch without any formal training or education. Local practices of tying bamboo together come in handy for the construction.

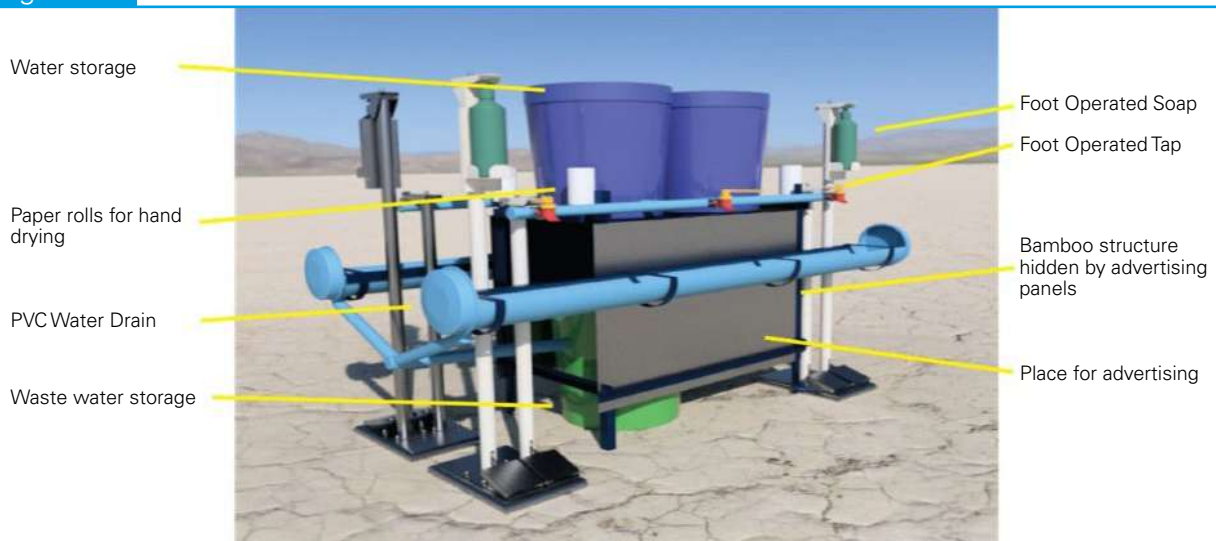
The bamboo structure is customizable and the height of the hand wash station can be adjusted as per requirements. With a proper 90-degree joint and plumbing structure, the frame assembly can be made functional within 30 mins.

An adjustable pick and place soap dispenser makes it easy to pack and move.

A constant flow of water overhead can replace the plastic buckets used for the platform on top. While hand washing with a running tap requires about 3 liters of water, and is otherwise between 1.5 and 2 litres, the foot-pedal-operated tap in this design is estimated to save 60 per cent of water, requiring only 0.6–0.8 litre water per wash. The foot-operated system is also pandemic resilient, making the design touch-free and contamination-free. Since all the materials used in the design can be easily bought in the local market, the inventory storage and transport costs are reduced, making this solution both cost-effective and a source of employment for local residents and craftspeople. The water storage bucket is also leakproof and closed, ensuring the water remains contamination-free.

The design also includes a designated space for the storage and disposal of wastewater. The outlet drain can be connected directly to the underground drainage (wherever possible). The slight slope of the PVC pipes allows proper flow of water into the drain. The total cost of the prototype is approximately Rs. 20,000. It is estimated that the final product will cost approximately half of what the prototype cost.

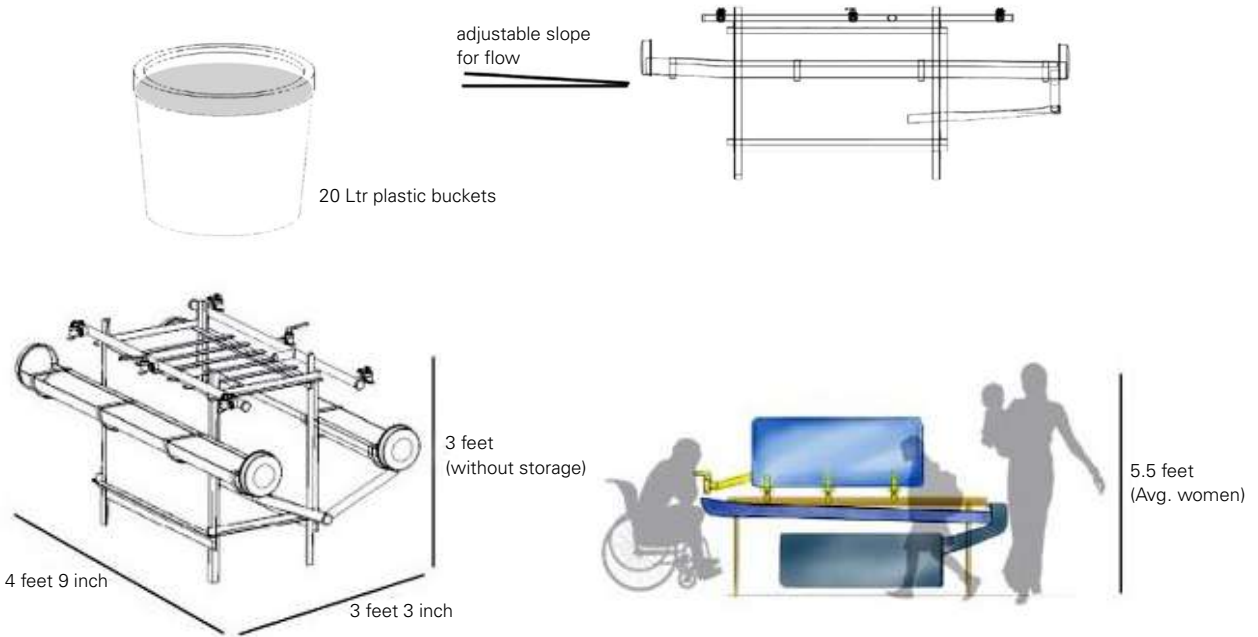
Figure 13: 3D model of Jaldhan prototype



Source: Manish Jadav



Figure 12: Dimensions of the components of Jaldhan Prototype



Source: India Sanitation Coalition

2. Model: MAHV

Name of the Winner: Team MAHV

Rank: First runner-up

Figure 15: Ms Vini Mahajan, Secretary-DDWS felicitating Team MAHV, first runner-up of Hand Hygiene Hackathon



Source: India Sanitation Coalition (ISC)



Team MAHV (a four-member-team) from the Indian Institute of Science, Bangalore, designed a prototype for a hand washing with soap station in order to solve problems encountered by users and keepers of hand washing stations.



The user issues they addressed included non-functional/broken taps, lack of clean water, slippery surfaces near the hand washing station, unhygienic conditions, water splashing out of the basin, and spitting in and around the basin, while the maintenance team issues included time-consuming maintenance due to inappropriate hand washing, water wastage, drain clogging, and littering near the hand washing station.

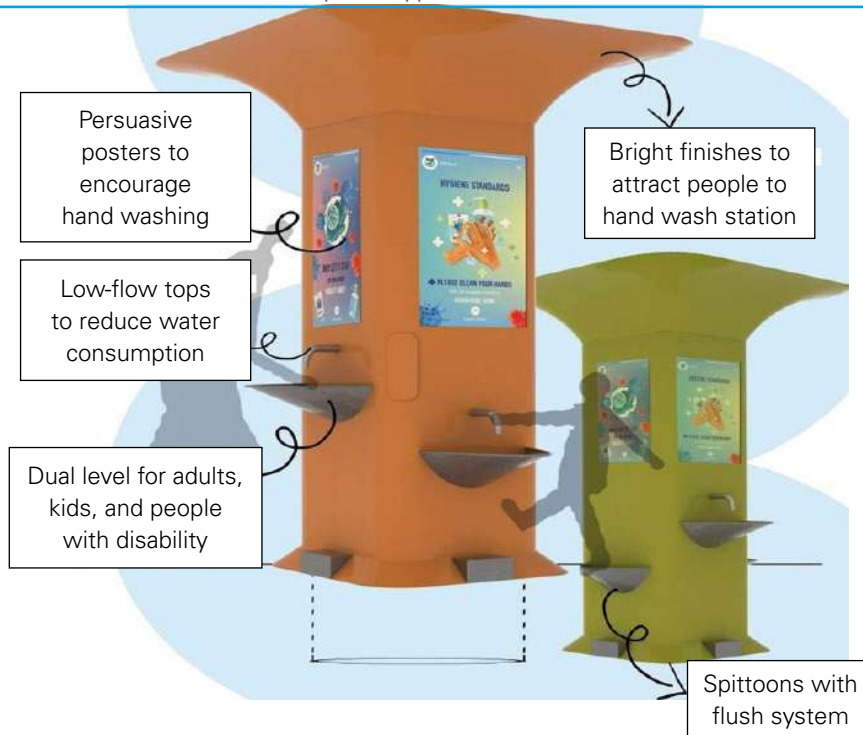


The team has addressed all these issues through the prototype.

The device includes a time-bound fixed quantity soap dispenser that dispenses soap once every 10 seconds as well as an additional spittoon next to the basin with a flush cleaning mechanism (that flushes once in 10 seconds). The flush will clean the spittoon with greywater generated by hand washing. Additionally, the water dispensers only release water for 10 seconds after the paddle is pushed, minimising water waste.

The design also has a provision for hooks to hang bags and other items. Mirrors and an additional basin are also included to ensure that differently abled people can use the facility. The design is flexible, persuasive, aesthetically pleasing, and it will attract the users to use the product.

Figure 16: 3D model of the MAHV prototype



Source: Team MAHV



3. Model: MAGNA

Name of the Winner: Team MAGNA

Rank: Second runner-up

Figure 17: Ms Vini Mahajan, Secretary-DDWS and Ms Naina Lal Kidwai, Chair-ISC felicitating Team MAGNA, Second runner-up of Hand Hygiene Hackathon



Source: India Sanitation Coalition (ISC)

Team MAGNA, a four-member team from the Indian Institute of Science, Bangalore, developed an innovative hand washing soap station design that is hygiene-sensitive, easy to fabricate, low-cost, easy to maintain, user-friendly, and sustainable; it also has a low environmental footprint, and can be scaled up quickly within an existing resource base.

Three sink heights are provided, arranged in a spiral pattern to accommodate both tall and short adults as well as children.



The tap opening mechanism offers two options: foot press actuation or elbow opening.



The distance between the three sinks, which is 120 degrees, is at least one metre. The tap opens when a metal ball is pushed to the side due to the magnetic actuation used in this design. This is achieved by bringing the magnetic lever near the metal ball either by a foot press or elbow press. As long as the water turbidity is less than 20 NTU, the washed water is filtered at least once before being used again for washing.

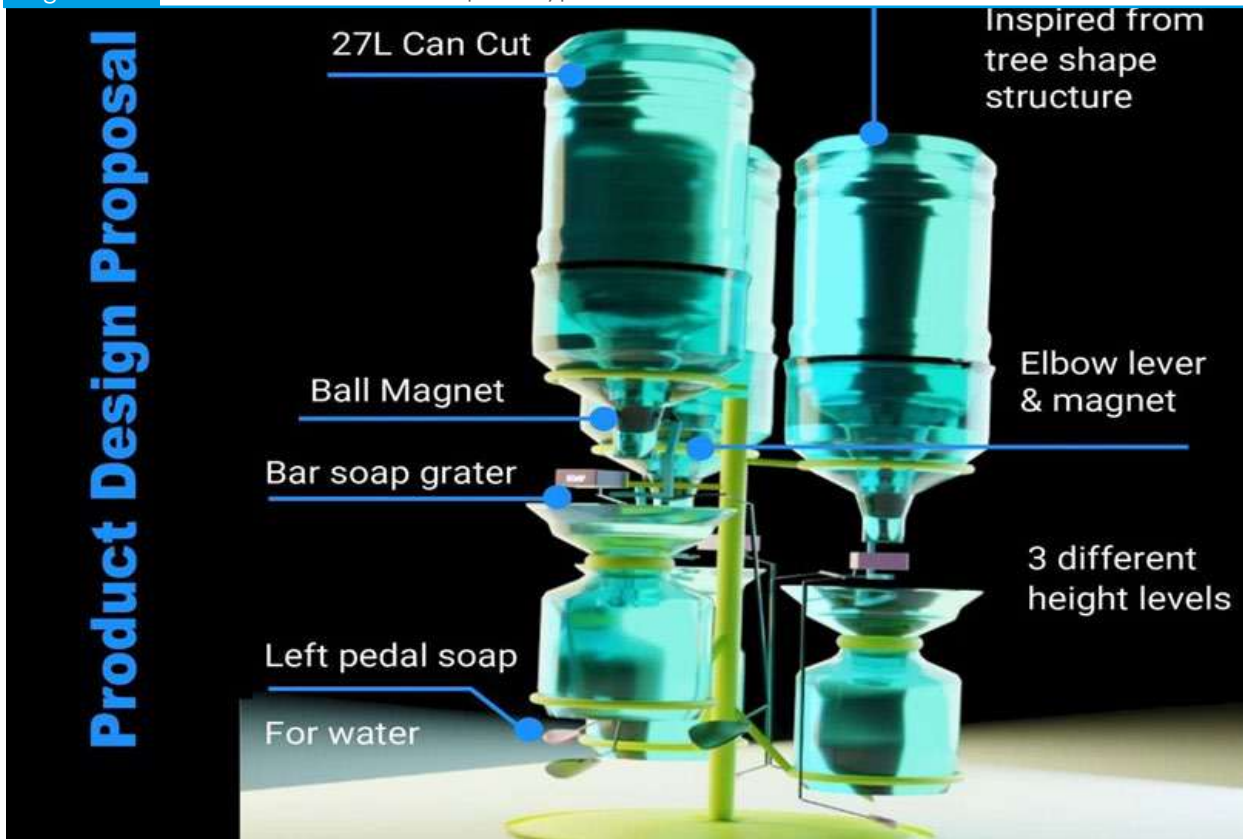


Instead of using liquid soaps that are harmful to the environment, the design has integrated a mechanism whereby a soap bar is grated using a foot pedal and savings of soap are dispensed for hand washing.





Figure 18: 3 D model of MAGNA prototype



Source: Team MAHV

The design has provisions for using 27 L tumble cans and one washing station can use up to 4 such cans. The cost of the prototype is INR 500 and INR 700.

4. Model: WASHOO

Name of the Winner: Team WASHOO

Rank: Special mention

Team WASHOO is a four-person team presently pursuing their master’s degree in design at the Centre of Product Design and Manufacturing at the Indian Institute of Science, Bangalore.

“
They developed two prototypes based on two scenarios – retrofitting existing infrastructure and installing new ones in case of unavailability of hand washing infrastructure.
 ”

For the first scenario, they intend to develop and test four different prototypes to check if they can be retrofitted with existing taps. These models will have four different handle lengths to find the best fit for a specific region. Essentially, there will be a soap dispenser attached on top of the taps, which can be elbow-operated to reduce the chances of contamination and spreading of infection. The soap is dispensed by pressing the lever downwards, and the tap is opened by rotating the lever sideways.

The design for the second scenario proposes arranging three cylindrical barrels in such a way that a sink is formed in between, where stainless-steel metal sheets from existing products will be reused to mould into a sink. Additionally, three used plastic barrels are to be



added – two at the base for collecting greywater and one as an overhead tank. The overhead tank has a storage capacity of 210 litres. It will also

include a contactless soap and tap mechanism as mentioned in scenario 1.

Figure 19: Ms Vini Mahajan, Secretary-DDWS and Ms Naina Lal Kidwai, Chair-ISC felicitating Team WASHOO, Special mention of Hand Hygiene Hackathon



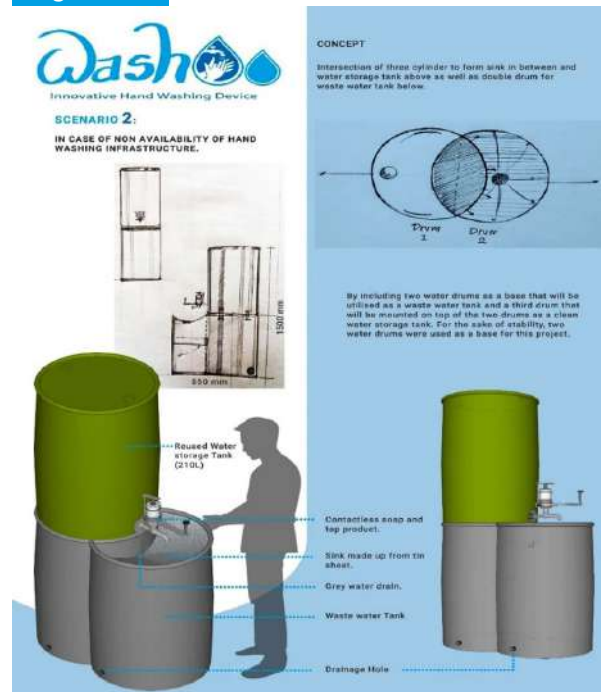
Source: India Sanitation Coalition (ISC)

Figure 20: 3 D model of WASHOO prototype



Source: Team Washoo

Figure 21: Details of the WASHOO prototype



Source: Team Washoo



5. Model: HappyTap

Name of the Winner: Mr Gaurav Saxena

Rank: Special mention

Figure 22: Mr. Nicola Osbert, UNICEF, felicitating HappyTaps, Special mention of Hand Hygiene Hackathon



Source: India Sanitation Coalition (ISC)

Major features of the product



It can be regularly refilled and cleaned.



It uses 80 per cent less water than a standard tap. It has been customized for Indian conditions where it is larger, sturdier, requires minimal touch, and has an easy to reach soap slot.

HappyTap is a social enterprise founded by Geoff Revell in 2015 in Cambodia, and it currently operates in Cambodia, Vietnam, India, Bangladesh, East Africa, and the USA. They developed a portable hand washing station that is highly cost-effective, durable, and modular, with a five-year warranty.

The design incorporates a 15-litre freshwater tank, and the tap opening mechanism offers two options: elbow and wrist with minimal hand contact. It also has a prominent soap slot that can hold both liquid and bar soap.



Figure 23: 3 D model of HappyTap prototype



Source: HappyTaps

Category 2: Process innovation

1. Name of the Winner: Aga Khan Foundation

Rank: Winner

AKF (India) is part of the Aga Khan Development Network (AKDN), which is a group of ten development agencies working to expand opportunities for economic, social, and cultural development in Africa, Asia, Europe, the Middle East and North America.

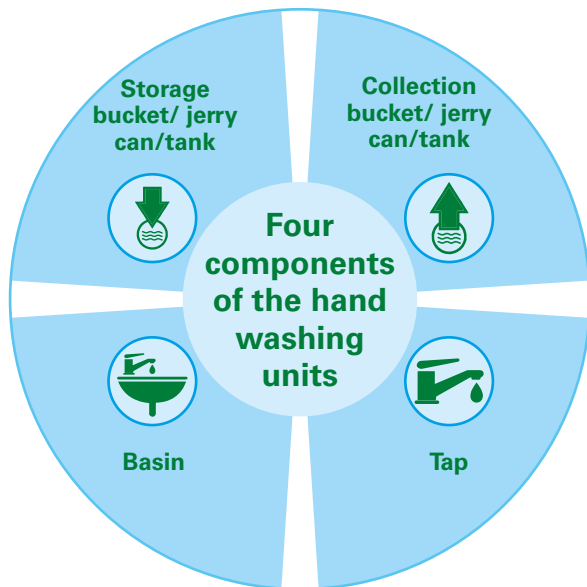


AKF has suggested a behavior-change-centered intervention together with a low-cost hand washing device that can be locally made, is easy to install, and has an easy-to-follow management and operating process.



This hand washing station would be set up on Village Health and Nutrition Day (VHND), a day that has been introduced as a community-driven strategic solution to provide access to fundamental public services and raise awareness of health, early childhood development, family planning, nutrition, and sanitation issues.

This strategy would also urge recipients to wash their hands with soap at the healthcare facility by making it a mandatory condition for receiving timely check-ups. Another step in the same direction is ASHA members' regular counselling on proper hand hygiene and its interlinkage with improved health.



The unit can be easily assembled at home using materials such as earthen pots and standard 20 litre capacity buckets that are available at the facility/ home. Once this is in place, a tap can be mounted on the bucket with the basin being connected to the collection bucket. Such a model is portable and can be installed anywhere within an hour.

The operation and management process of the hand washing unit are also simple. The 20L bucket can be filled by anyone in the same way that people collect their drinking water, and the greywater storage bucket can be emptied into nearby existing drains. The team also proposes developing IEC material on the correct hand washing steps. This could be pasted on the wall as a behavioral and architectural nudge.

Figure 24:

Ms Vini Mahajan, Secretary-DDWS, Mr. Arun Baroka, Special Secretary-DDWS, Ms. Naina Lal Kidwai, Chair-ISC and Mr. Nicolas Osbert, WASH Chief, UNICEF, felicitating Aga Khan Foundation, Winner of category 2 in Hand Hygiene Hackathon



Source: India Sanitation Coalition (ISC)



Figure 25: IEC material developed by Aga Khan foundation

AGA KHAN FOUNDATION

**साबुन से हाथ धोना रखें याद,
हाथों को धोएं बार-बार।**

आइए हम सभी इन महत्वपूर्ण अवसरों पर अपने हाथ धोने का संकल्प लें।

बीमार व्यक्ति की देखभाल करने से पहले।

खाँसने और छींकने के बाद।

बाहर से आने के बाद जैसे बाजार, राशन की दुकान, बैंक, खेत।

छोटे बच्चों को खिलाने से पहले और स्तनपान से पहले।

शौच के बाद और बच्चे के मल का निपटान करने के बाद।

पानी लाने या भरने से पहले।

खाना पकाने से पहले, और खाना खाने से पहले।

**साबुन से हाथ धोना अपने आप को कोरोना वायरस से सुरक्षित रखने का सबसे सरल और प्रभावपूर्ण/महत्वपूर्ण उपाय है।
याद रखें कोरोना से लड़ाई : सामाजिक दूरी और सफ़ाई**

अधिक जानकारी के लिए कृपया स्वास्थ्य विभाग के हेल्पलाइन पर संपर्क करें। - टोल फ्री- 1075 | 011-23978046

Source: Aga Khan Foundation

2. Name of the Winner: Kendriya Vidyalaya No 1, Roorkee

Rank: First runner-up

Kendriya Vidyalaya No. 1, Roorkee, is one of 1100 Kendriya Vidyalayas across the country run by the Kendriya Vidyalaya Sangathan,

an autonomous body under the Ministry of Human Resource Development, Government of India. The Vidyalaya campus in Roorkee is spread across 11.8 acres and offers a variety of facilities for the students' overall development, as well as a conducive environment for teaching enhancement through the use of



Figure 26:

Ms Vini Mahajan, Secretary-DDWS, Mr.Arun Baroka, Special secretary-DDWS, Ms. Naina Lal Kidwai, Chair-ISC and Mr. Nicola, KV no 1 Roorkee, First runner-up of category 2 in Hand Hygiene Hackathon



Source: India Sanitation Coalition (ISC)

latest technologies. Hand washing stations have been strategically placed near restrooms, classrooms, staff rooms, and other areas of the campus. Students and staff have designated time in their daily schedules for hand washing, particularly after restroom breaks, before lunch, or after playing outside.



Hand washing with soap and water for at least 20 seconds is something that is routinely taught and reinforced.

Additionally, to routinely remind students of the significance of good hand cleanliness, hand hygiene classes have been incorporated into the school curriculum.



The hand washing stations are positioned in highly visible locations throughout the school, such as restrooms and toilets, lab sinks, or canteen sinks, along with visual cues like hand washing posters, stickers, and other material.

3. Name of the Winner: Citizens Association for Child Rights (CACR)

Rank: Second runner-up

Citizens Association for Child Rights (CACR), a non-profit organization established in 2013, has implemented WASH programmes in schools and healthcare facilities, providing affordable and easy-to-maintain hand washing solutions backed up by awareness generation via interpersonal communication (IPC) and risk communication and community engagement (RCCE) protocols. CACR conducted a need



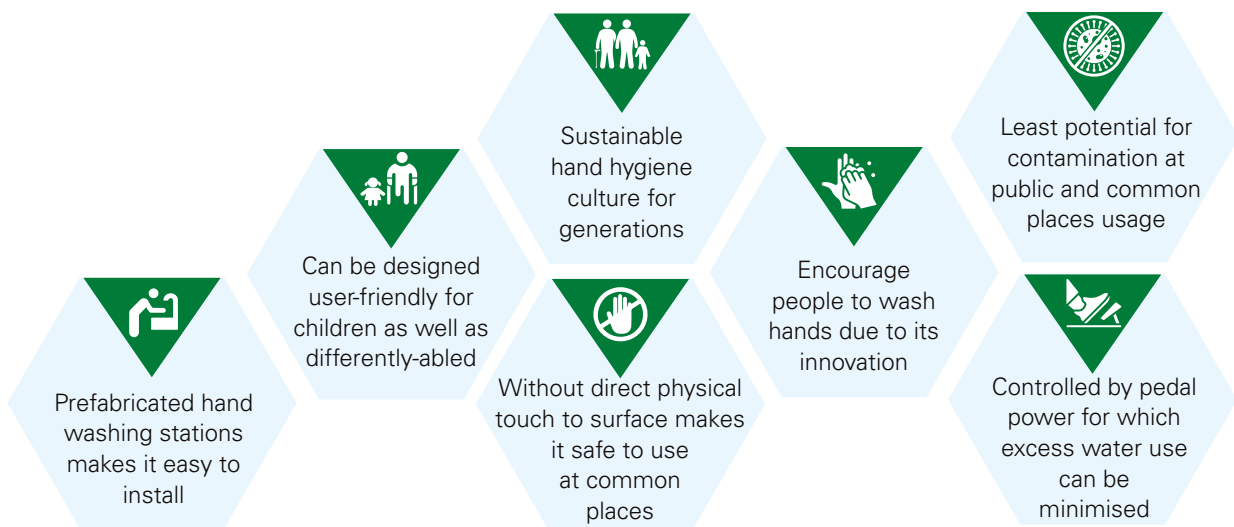
Figure 27:

Ms Vini Mahajan, Secretary-DDWS, Mr. Arun Baroka, Special secretary-DDWS, Ms. Naina Lal Kidwai, Chair-ISC and Mr. Nicola Osbert, WASH Chief, UNICEF, felicitating CACR, Second runner-up of category 2 in Hand Hygiene Hackathon



Source: India Sanitation Coalition (ISC)

Figure 28: Key features of the hand hygiene management system developed by CACR



Source: CACR



assessment of the situation using the Kobo application to understand the current scenario pertaining to hand hygiene in schools and healthcare facilities.



Following the need assessment, non-touch pedal-operated hand washing stations and elbow-operated taps were installed in community toilets. IEC posters were displayed in the toilets to create awareness.



RCCE activities were carried out to raise awareness about hand hygiene and the use of masks. Capacity building for CBO representatives and toilet attendants was conducted along with development and dissemination of standard operating procedures for the operation and maintenance (O&M) of these facilities.

Brief profile of the finalists who were provided additional support to pilot the prototypes

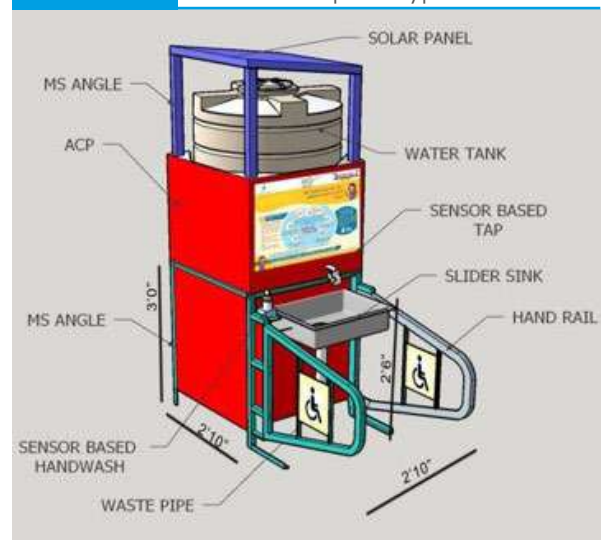
In category 1 (product development), in addition to the winners, two other finalists were awarded Rs 25,000 each for prototype development and piloting in three different locations.

1. Aga Khan Foundation

AKF (India) designed a mobile hand washing station for people with special needs. Those with orthopaedic and visual impairments, or cerebral palsy, can wash their hands at this hand washing station without assistance. This

is a sensor-based (touch-free), solar-powered, interactive voice response (IVR) guided hand washing station for a differently-abled person that can be installed in public places and buildings to support improved hand washing practices and reduce virus transmission.

Figure 29: 3D model of the Aga Khan foundation prototype



Source: Aga Khan Foundation

2. Team TAPB, Indian Institute of Science, Bangalore

Team TAPB designed a hand washing unit that is aimed at all segments of society and can be set up in both rural and urban areas of India. The main parts of the design include a tap, a foam bottle, a toppling barrel, and a pedal. By pressing the pedal with the foot, the foam bottle is pushed, releasing the foam on the user's hand. The link also opens the tap and simultaneously releases water, which begins filling the barrel with a 20-second delay. This ensures that the user thoroughly washes their hands for 20 seconds. When the barrel is completely filled, it tips over, which can be used by the user to rinse their hands. As soon as the water is drained out of the barrel, it returns to its upright position.

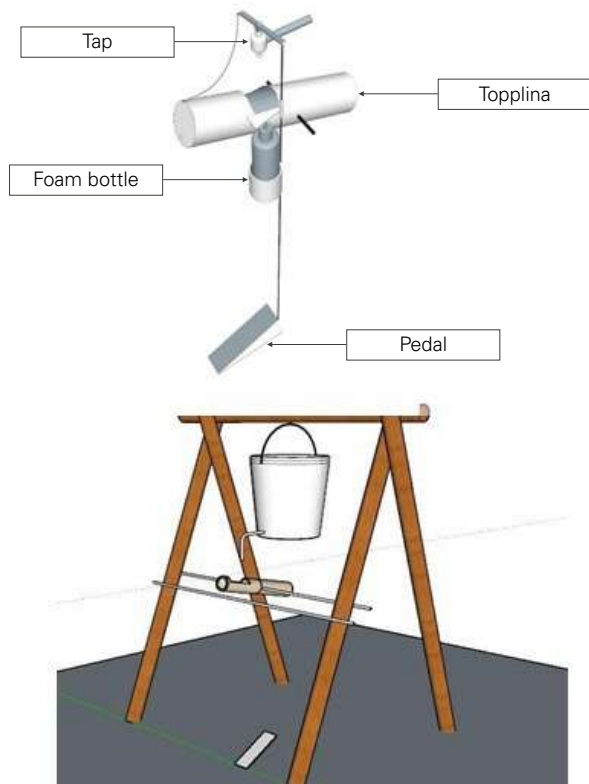


For proper drainage, the base pit of the setup is filled with pebbles or covered with grass. This prevents water stagnation and thus water-borne diseases and infections.



The proposed design is interactive, user-friendly, and aesthetic. The design uses a push-pedal, and the 'shishi-odoshi' mechanism enhances user interaction, appeal, and aesthetics.

Figure 30: 3D model of TABP prototype



Source: Team TAPB

Brief profile of the finalists in each category

Category 1: Product innovation

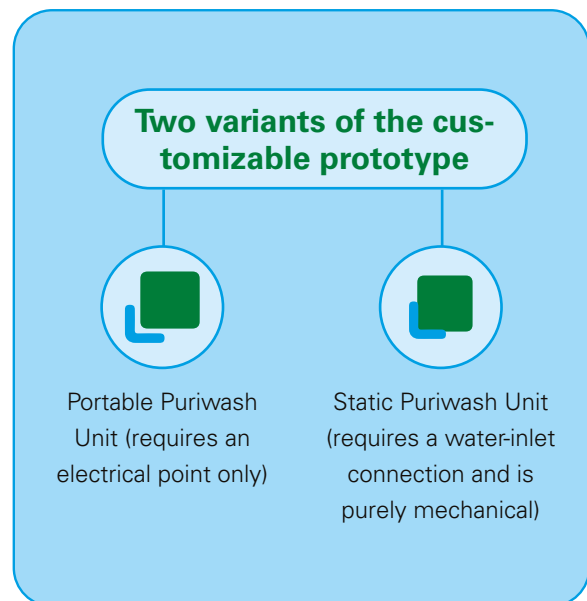
1. Merino Industries Ltd

Merino Industries specializes in the production of high-quality restroom products and furniture

solutions. Their innovation addresses the constraint in access to portable hand washing devices at the community level for institutions, transportation hubs, workplace spaces, healthcare facilities, and places of worship. In order to uphold the social distance standards during the COVID-19 period, it proposes to decentralize the washing activity.

The wash station design consists of a water faucet, a sink, a tissue dispenser, and a soap dispenser. Two cans, one for wastewater collection and the other for water storage, are also installed. Foot pedals are provided at an angle to make it user-friendly and to allow for contactless hand washing. No existing plumbing line or a new connection is required for installing this unit.

The material used for the entire system is green certified and designed cost-effectively for mass production.



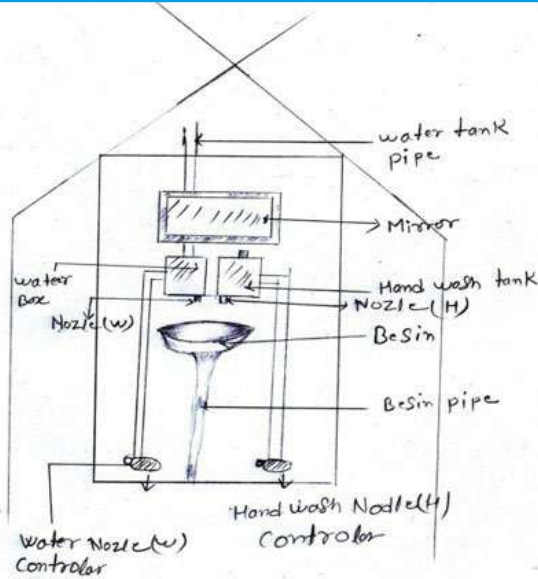
Materials used for the product are high-pressure laminate boards (for outdoor spaces) or pre-laminated boards (for indoor spaces).



2. Ravi Kumar Sharma

To make hand washing systems in schools contactless during the pandemic, Ravi Kumar Sharma developed a folding hand wash station where four people can wash their hands at the same time.

Figure 31: Sketch of the prototype hand washing station



Source: Ravi Kumar Sharma

Figure 32: Mr Ravi with a miniature model of the hand washing station



Source: Ravi Kumar Sharma

The nozzles of each tap are operated by foot. This is expected to reduce the spread of the virus among children as it is contactless. The prototype includes a water tank, water filling pipe, four mirrors, four water nozzles, and four soap nozzles. It also comprises a separate hand wash tank filled with soap and a basin. The basin will help in draining the water with both the water nozzle controller and soap nozzle controller being foot operated.

3. Anant National University

A two-member team from Anant National University presented a design for a hand wash basin that is cost-effective, pandemic resilient, durable, and easy-to-maintain. The design is wheelchair friendly and two people can use it at the same time. The prototype comprises a freshwater (blue color) and a greywater tank (red color) with a capacity of 60L for each tank. The tanks are made of stainless steel, which is durable and prevents microbial growth. The greywater tank can be connected to the existing drainage lines using outlet hoses. It has a foldable back panel with a detachable soap dispenser, and a tissue box containing bamboo tissues that can be washed and reused. A waste basin is also provided to collect the used tissues.



Along with a rod for adjusting the height of the wash basin to make it accessible for all users, a foot-operated spray-type faucet is provided to help reduce water consumption.



The water taps can also be accessed by pressing the foot pedal, which prevents touching of the faucet. The estimated cost



of the prototype is INR 16,000, which can be further lowered to INR 12,000 for a mass production of 100 units.

Figure 33: 3 D model of the prototype



Source: Anant University

4. Anant National University

A 5-person team, also from Anant National University, focused on making hand washing systems that're universally designed for

everyone, including children and differently-abled users.

“ The design is such that it can easily be assembled by a person without any technical knowledge. ”

The product includes an inlet for a 70L water tank, a motor, and a sensor along with a separate soap and water dripping tap.

There is a sink, a sink outlet, a grey water tub, and a wastewater removal outlet. It also has a light for using the wash basin at night. The total cost of the machine is INR 32,000 for a minimum manufacturing of 100 pieces. This prototype system claims to reduce water usage by 85 per cent.

Figure 34: Detailed model of the prototype

REQUIREMENTS

- Adjustability
- DIY
- Non-Touch
- Soap dispenser
- Tissue
- Spray faucet
- Water disposal

SKETCH

SOLUTION

Tank 1
Fresh water tank
Capacity- 60L

Tank 2
waste water tank, Capacity- 60L
Can also be connected directly to the existing sewage.

Soap Dispenser
One push soap dispenser for easy access to liquid soap.

Tissue box
bamboo tissues which can be washed and reused.

Faucet
A foot operated spray type faucet for reducing the water usage.

Wastebin
To collect used tissues, which can be reused.

BasinStand
It can be manufactured of LDPE (which can be recycled) or from recycled plastic.

Foot Pedal
Tap water can be accessed without touching the faucet by pressing the foot pedal.

Top lid
To cover the setup. The tanks can be accessed after removing it.

Body
Sheet metal made of AISI 304, which is both durable and recyclable.

Wheels
Easy to maneuver

Rod
Adjustable to various heights so that all type of users can access

Source: Anant University



5. SATO, Lixil

SATO is a part of LIXIL, an award-winning organization that is positively impacting the lives of over 35 million people in 44 countries. In India, SATO has been working with 45+ distributors and 1500+ retailers to improve sanitation across the country. They have built a strong distribution and supply network with local manufacturers, retailers, and re-sellers across the country, and they are expanding the availability, affordability, and quality of goods available to their customers.

Figure 35: 3 D model of the SATO Tap



Source: SATO, Lixil

Their innovation “SATO Tap” is made out of a plastic base with a nozzle that can be attached to a variety of readily accessible plastic bottles. It is portable and can be used as a hand washing station both in public restrooms and at home. The distinctive tap’s low-contact design prevents the transmission of disease, and the trickling motion uses less water and requires fewer refills while maintaining a constant flow.



The technology is the most cost-effective and straightforward hand washing solution. The majority of homes that tested and used the SATO Tap during its trial period remarked that it is “simple to use for adults and children” and “has minimal water use.”

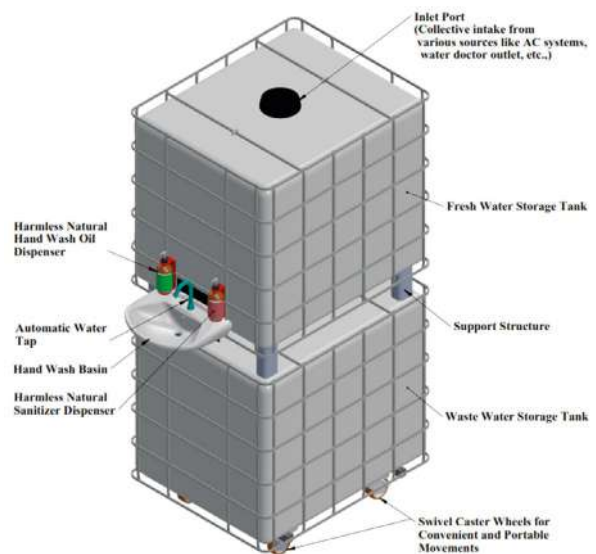


The trial was conducted in partnership with UNICEF, which worked with SATO in the product’s development.

6. Karupa Foundation Education and Research Centre

Karupa Foundation developed a modular portable hand washing station comprising a hand wash basin, an automatic water tap arrangement, a water inlet connected to the tap with a freshwater storage tank, and a wastewater storage tank connected to the sink by a discharge pipe.

Figure 36: 3 D model of the modular portable prototype



Source: Karupa Foundation Education and Research Centre



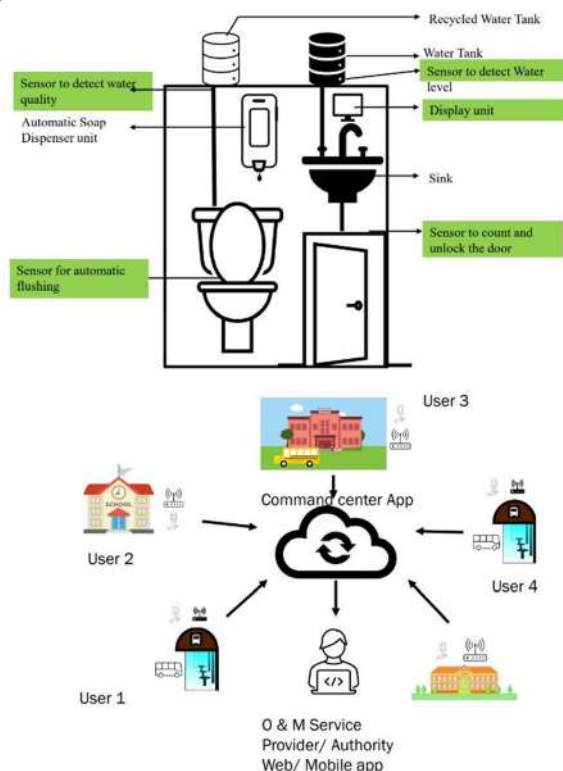
The sink, tap, freshwater storage tank, wastewater storage tank, clean water flow path, wastewater discharge pipe, main water inlet, and wastewater outlet are all mounted on swivel caster wheels for convenience and portability. The sensor signal is received by an indicator that generates an audible or visual alert when the waste tank is nearly full. The processing circuit controls the dispensing of harmless natural hand wash oil, harmless natural sanitizer, and water, in response to signals from the proximity sensor. With a nominal capacity of 700 litres, this portable hand wash station can serve 1400 users per day.

Category 2: Process Innovation

1. Eco Paradigm

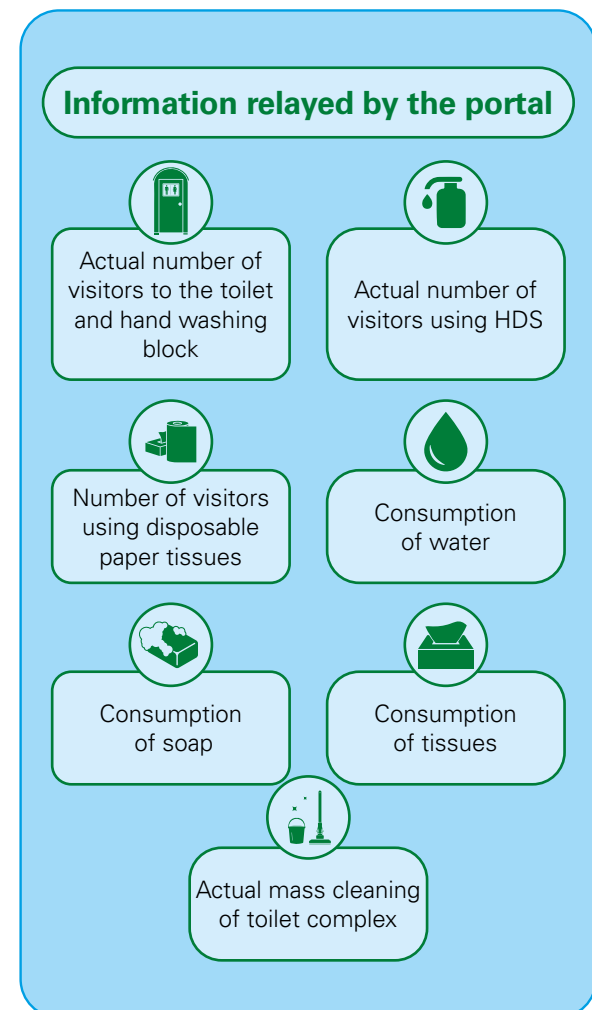
Paradigm Environmental Strategies (P) Ltd. is a consulting firm that specializes in implementing sustainable and eco-friendly development projects.

Figure 37: Components and details of the management system



Source: Eco Paradigm

By retrofitting the existing or available wash station, they developed a hand wash station model. This model involves the creation of a network of intelligent hand washing stations that will be connected to a single command and control centre. The command and control system is built around a low power, high-performance controller with a Bluetooth Low Energy (BLE) interface, allowing the station to be programmed via a mobile app on a smartphone. The system uses a local SIM and a GPRS/4G data connection to connect to the cloud. For data collection and analytics, the cloud is designed utilizing Amazon AWS IoT. The portal then provides a real-time dashboard with all the hand soap dispensing station (HDS) status information.





2. Himanshi Gupta and Team

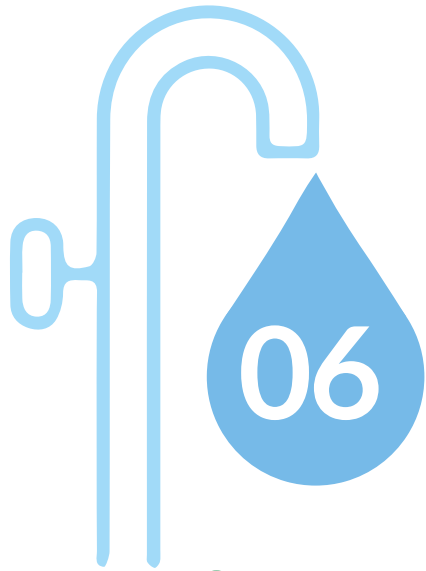
The four-person team recommended a closed-loop system with one hand washing unit for every two classrooms. The design includes a 15L bucket with the compact portable hand washing equipment, providing up to 75 washes per refill. The elbow-operated devices, which will cost around Rs 3,000, will help reduce disease cross-contamination. A poster will be created and adhered to the hand washing collecting tank to instruct students on the six

steps of hand washing. A checklist will be used to keep track of the unit's administration and operation. A member of the school cleaning crew will be tasked with running and managing the unit. The greywater will be disposed of in the existing drain or utilized in the kitchen garden. The children will be trained on hand hygiene and the caretaker of the hand washing facility will be trained on both hand hygiene and hand washing unit's O&M.

Figure 38: School kids washing hands with soap before lunch



Source: Mayank Soni



Field piloting of winners' innovative hand washing stations



After months of rigorous hand-holding and engagement with the Hand Hygiene Hackathon winners, it was heartening to see the actual prototypes being developed. ISC and its partner WASH Solutions provided critical support to the winners beginning with prototype development, connecting them to relevant vendors, providing technical assistance, reviewing designs, suggesting changes as needed, and encouraging them to carry out the



The purpose of these pilots was not only to develop attractive, low-cost and easy-to-maintain hand washing stations, but also to develop a space that catalyses desired holistic behaviour change.



allied tasks necessary to bring their designs to life. The previous year's efforts culminated in some very innovative designs for hand washing stations being piloted in multiple geographies of the country. Details of piloting, which began in September, are given below:

1. Location: Rajpur block, Hathras, Uttar Pradesh

Model Name: HappyTaps

Number of prototypes piloted: 3

Ms Priyanka Tiwari, Gram Pradhan of Rajpur, who was also a jury member for the competition, was approached and under her guidance, three locations in Rajpur block of Hathras, Uttar Pradesh were selected for piloting the HappyTaps innovative hand washing station.

Figure 39: Piloting HappyTaps prototype in primary and upper primary school, Rajpur block, Hathras





Figure 40: HappyTaps prototype installed in the Anganwadi centre, Rajpur block, Hathras



Figure 41: A primary student washing his hands using the HappyTaps prototype hand wash basin



One prototype was installed in the primary and upper primary school, another in the village's anganwadi centre, and a third in an air conditioned library for local students preparing for competitive exams, which was built thanks to Ms Tiwari's efforts.

Based on feedback from the previous model, which lacked a height adjustment component, HappyTaps added a new modular stand to the hand washing station that can be assembled in a matter of minutes. A collapsible container for collecting greywater was also added to ensure that greywater is properly collected and disposed of. The new prototypes received very positive feedback from school officials, children, and the general public.

Ms Tiwari also presented her experience piloting the three prototypes in her village at a two-day National Conference organized by the Union Ministry of Panchayati Raj on 'Smart Village Panchayat: Empowering Rural Communities; Leaving No One Behind' in Lucknow on 15–16



September 2022, where the project received recognition at a national platform.

2. Location: Bangalore, Karnataka

Model Name: Magna

Number of prototypes piloted: 2

Team MAGNA from Indian Institute of Science (IISc) Bangalore designed their hand washing station with the aim of developing a portable model that can be deployed in places where a stationary hand washing station cannot be installed. Accordingly, they piloted their first prototype in Bangalore's crowded VV Puram Food Street and another in IISc's canteen.

Because there were no nearby hand washing facilities, the portable hand washing facility met a perceived need on the food street. People were drawn to the prototype because of its

innovative design, which piqued their interest. The idea to install this prototype in such a crucial location was appreciated by the users. They also provided some interesting feedback, such as increasing the size of the sink, using a

Figure 43: Prototype of team MAGNA deployed in food street, Bangalore



Figure 42: Pilot of Team MAGNA's prototype in IISc campus canteen, Bangalore





Figure 44: Feedback provided by ISC and WASH solutions during piloting in IISc campus canteen



sturdier material for the foot pedal, making the IEC and usage instructions more visible, and so on.

At the IISc Bangalore canteen, students, college staff members and faculty used the hand washing station and provided affirmative feedback. The team took note of the feedback and used it to improve the design of their prototype.

“

An important takeaway from this piloting was that, if properly marketed and developed, such a model will be extremely useful in settings without piped water supply, such as some rural locations, food vending zones, events like rallies, etc.

”



3. Location: Lucknow (Uttar Pradesh) and Nashik (Maharashtra)

Model Name: Jaldhan

Number of prototypes piloted: 2

Manish Rajendra Jadhav, winner of the Hand Hygiene Hackathon, developed Jaldhan, a stationary hand washing station that is low-cost, made from locally sourced materials, can be deployed in areas with no piped water supply, can be fabricated locally, is suitable for both urban and rural settings, and is sustainable. Accordingly, he chose to pilot his prototype in both urban and rural settings – one in Lucknow and one in Nashik.

In Lucknow, the prototype was installed at Scholar’s Home school and the pilot was

kicked off in the presence of Dr. Nagendra Singh, In Lucknow, the prototype was installed at Scholar’s Home school, and the pilot was launched in the presence of Dr. Nagendra Singh, UNICEF Lucknow’s WASH Specialist, Ms Ananya Ghoshal, UNICEF Lucknow’s WASH Officer, and representatives from ISC Delhi and WASH solutions. Scholar’s Home school administration provided full support and cooperation for the piloting. It is worth noting that five Scholar’s Home school students participated in the hackathon adjudication process as an experiment because they would be the final users of the product.

During the kick-off event, Mr Jadhav received feedback from the ISC, team WASH solutions, UNICEF state officials, and school administration and staff members.

Figure 45: Piloting of Jaldhan model in Scholar’s home school, Lucknow





Figure 46: Feedback provided by Dr. N.K Singh, UNICEF Lucknow





Figure 47: Jaldhan model with the designer and implementer- Manish Rajendra Jadhav



Figure 48: Clippings from local newspaper in Lucknow showcasing the installation of Jaldhan hand wash basin at Scholar's home school



The feedback and suggestions were thoughtful and insightful, and included ideas like switching recyclable PVC pipes for bamboo and removing the foot pedal for soap dispensing mechanism, among others. Students' feedback was gathered after the event so that the design may be improved to be more user-friendly and cost-effective.

The piloting also got media coverage, and two Hindi dailies – Amar Ujala and Satya Sangam – published the story to celebrate the success of the Jaldhan piloting.

The second prototype was deployed at Swami Someshwaranand Sarawasti School, which is a primary gurukul school in the pristine hills of



Figure 49: Jaldhan model with the designer and implementer- Manish Rajendra Jadhav



Figure 50: School authorities using Jaldhan wash basin



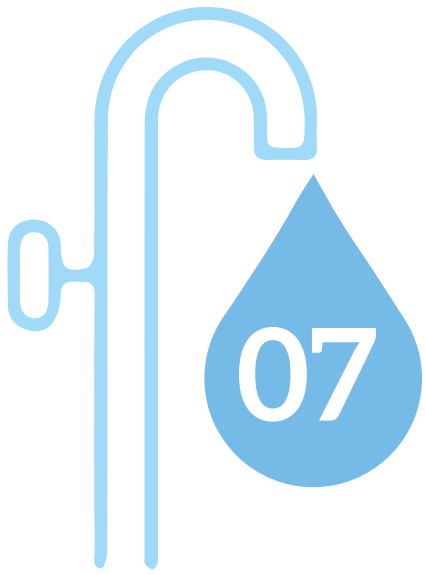
Trimbakeshwar, Nashik. The school authorities and students were very enthusiastic about using such a modular form of wash basin. The users provided positive feedback for its user-friendliness, design, and the use of sustainable and recyclable materials.

Mr Jadhav is in touch with both the schools to get direct feedback on his design and prototype and to gauge its application in both urban and rural schools. He is currently planning the next steps for his model, such as patenting,

commercialization, etc., after the piloting is over and an improved design based on user feedback is developed.

He has also developed an IEC cum product booklet that will be given to the schools for further advocacy and hand washing training.

Three more pilots are scheduled to be completed by the end of October 2022, following which a more detailed project report will be published.



Gallery





Snapshots Hand Hygiene Hackathon event

Figure 51: From right to left: CEO ISC-FICCI Ms. Natasha Patel, ISC-Chair Ms. Naina Lal Kidwai, DDWS Secretary Ms. Vini Mahajan, DDWS Special Secretary Mr. Arun Baroka, and Mr. Nicolas Osbert, UNICEF



Source: India Sanitation Coalition

Figure 52: Mr. Nicolas Osbert, Chief, UNICEF India speaking at Hand Hygiene Hackathon Prize distribution ceremony



Source: India Sanitation Coalition



Figure 53:

Ms. Natasha Patel, CEO, ISC-FICCI addressing at Hand Hygiene Hackathon Prize distribution ceremony



Source: India Sanitation Coalition

Figure 54:

Dr. Sanjeev Shekhar Jha, Director, ISC-FICCI, speaking at prize distribution of Hand hygiene Hackathon



Source: India Sanitation Coalition



Figure 55:

Mr. Puneet Srivastava, Founder, WASH solutions speaking at prize distribution of Hand hygiene hackathon



Source: India Sanitation Coalition

Figure 56:

Ms. Mitali Agarwal, Senior Project Manager, ISC-FICCI speaking at prize distribution ceremony of hand Hygiene Hackathon



Source: India Sanitation Coalition



Figure 57: In the picture: Mr Sujoy Majumdar (extreme right), Nicolas Osbert (extreme left), Dr. Vivek Chauhan, Reckitt Benckiser (behind Mr Sujoy Majumdar), development partners and participants attending the award ceremony at FICCI office



Source: India Sanitation Coalition

Figure 58: Corporates and participants attending the award ceremony



Source: India Sanitation Coalition



Figure 59: Development partners (WaterAid, Aga Khan Foundation, Water for People, etc.) and Corporates (DCM Shriram, ITC, Nestle, etc.) during the award ceremony event



Source: India Sanitation Coalition



Snapshots of Piloting

Figure 60: Jaldhan model at Scholars' home school, Lucknow



Source: India Sanitation Coalition



Figure 61: Discussion with Scholars home teachers, UNICEF team and ISC team



Figure 62: Use of the Jaldhan hand wash station by school students at Nasik



Figure 63: Piloting of team MAGNA's hand wash station at food street, Bangalore





Figure 64: IEC material prepared by HappyTaps

अपने हेप्पीटैप की देख-भाल कैसे करें?

हेप्पीटैप को संभालना, साफ करना और उसकी देख-भाल करना बहुत ही आसान है, बस कुछ चीजों का ध्यान रखना चाहिए।

1. हेप्पीटैप को समतल सतह पर ही रखें।

2. हेप्पीटैप को हमेशा उचित ऊंचाई पर ही रखें।

3. हेप्पीटैप को साफ करने के लिए केवल मुलायम कपड़े और साबुन का प्रयोग करें।

हमें अपने हाथ कब-कब धोना चाहिए?

खाणा खाने से पहले/बाद में

शौचालय का उपयोग करने के बाद

खाणा पकवाने से पहले/बाद में

किसी जानवर के साथ खेलने के बाद

धीसात व्यक्ति की देखभाल करने से पहले/बाद में

छींकने/छांसने के बाद

बच्चे की देखभाल करने से पहले/बाद में

हेप्पी टैप - हाथ धोने का नया अंदाज़

स्वच्छता के नए मापदंड: जहाँ आप, वहाँ हाथ धोने की सुविधा

जिनके शौचालय में ठोस बैरिंग और साबुन उपलब्ध करना काफी नहीं है।

क्यों? क्योंकि बैरिंग शौचालय इस्तेमाल करने के बाद ही हाथ धोना काफी नहीं होता है।

हाथों की स्वच्छता का सुनिश्चिती भविष्य: कई स्थानों पर हाथ धोने की कई सुविधाएँ।

इन्होंने स्कूलों में हाथ धोने की सुविधाओं को एक जगह से अनेक जगह पर लाने की ही आवश्यकता है।

अब हाथ धोने के लिए कक्षा में बाहर आ कर, हीम को पत्र कल्ले हुए, पतले हुए पर लीनो टैबलते तक लाने की जरूरत नहीं है।

इसके अलावा, जहाँ आप, वहाँ हाथ धोने की सुविधा।

याद रखें की हाथ 20 सेकंड तक अच्छे से धोये ताकि सभी कीटाणु नष्ट हो जाएं।

विद्यालयों के लिए
चलो हाथ धोने की सुविधा को अपने आस पास ही रखते हैं।

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आंगनवाड़ी केंद्र में
चलो हाथ धोने की सुविधा को अपने आस पास ही रखते हैं।

विभिन्न कारणों के बावजूद से हम दिन में उचित बार हाथ नहीं धो पाते हैं, जैसे-

- हाथ धोने के आवश्यक अवसरों में जागृणी वृद्धि
- साफ पानी की कमी
- मौजूदा हाथ धोने की व्यवस्था में कमी
- मौजूदा व्यवस्था में बदलाव लाने में बहुत समय लगता है व बहुत महंगा होता है
- अच्छे समाधान की उपलब्धता न होना

हेप्पीटैप पोर्टेबल हैंडवाशिंग स्टेशन ही क्यों?

बहुआदर्शिय डिज़ाइन

कॉम्पैक्ट डिज़ाइन कम करने के लिए कलाई या कोढ़नी द्वारा संचालित नल

बड़ा बैरिंग स्पिल को कम करता है और आस पास स्फार्ड रखने में मदद करता है

साफ पानी को स्टोर करने के लिए 15 लीटर का टैंक

पानी की बचत के लिए विशेष रूप से बनाया गया नल 4 गुना कम पानी का उपयोग करता है

साबुन रखने की जगह।

हेप्पी टैप पोर्टेबल हैंडवाशिंग स्टेशन
जहाँ आप, वहाँ आपकी हाथ धोने में सहायता



Figure 65: IEC material prepared by Manish Jadhav







WHEN TO WASH YOUR HANDS

WASH YOUR HANDS BEFORE EATING

When you eat a meal without washing your hands, the germs on your hands go into your mouth. Germs can cause infections like sore throats and stomach flu.



WASH YOUR HANDS AFTER SNEEZING

Wash hands with soap and warm water or clean with alcohol-based hand cleaner. Do not touch your eyes/nose/mouth with unwashed hands.



WASH YOUR HANDS AFTER PLAYING WITH ANIMALS

Animals provide many benefits to people. However, some animals can carry diseases that can be shared with people.



WASH YOUR HANDS AFTER USING TOILET

Using the bathroom requires a lot of touching: opening the door, lifting the lid, wiping and flushing. You get germs on your hands with any one of these efforts.



HOW TO PROPERLY WASH YOUR HANDS



1
WET YOUR HANDS



2
APPLY THE SOAP



3
SCRUB YOUR HANDS



4
CLEAN YOUR THUMB








5
RINSE YOUR HANDS



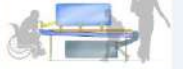
6
DRY WITH TOWEL

'CLEAN HANDS SAFE HANDS'


PRODUCT FEATURES

INCLUSIVE




Designed for wide range of users

MODULAR




Adjustable height setting as per location

SUSTAINABLE



Use of Bamboo and recycled materials

IEC MATERIAL



Awareness and user guide easily available


70% SAVING BLUE

For every 20 Ltr

<p>Manual Release Tap</p> <p>10-15 people</p> <p>1.5-2 liter per wash</p>	<p>Foot Operated Tap</p> <p>45-60 people</p> <p>With Foot Operated tap = 0.5 liter per wash</p>
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70% water saving using foot operated taps

GRAY MANAGEMENT




Proper guides for disposal & storage of waste water

TOUCH FREE






Pandemic resilient with foot operated pedals



JOB CREATION

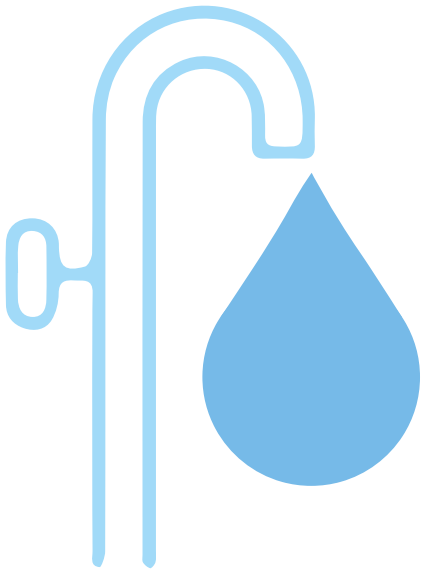


Creating jobs for local craftsmen

United Nations Sustainable
Development Goal Alignment



Annexure



The Hand hygiene hackathon was organised by UNICEF in collaboration with India Sanitation Coalition (ISC). The hackathon had two categories: (i) Innovative product designs and (ii) Innovative processes with a focus on low-cost and easy-to-maintain sustainable models. Besides, getting a chance to showcase their innovation at the FICCI platform, which is the voice of India's business and industry and is the largest conglomerate

of the Indian private and public corporate sectors and multi-national companies reaching out to over 2.5 lakh companies, the winners were promised a cash award. For the winners of category 1 additional assistance was to be given by providing them the opportunity to get handholding support right from the prototype development to field piloting from the best of the mentors/hand washing experts from the industry.

Category 1: Innovative product designs

Team/Individual	Position	Prize money	Contact details
Manish Jadhav, IIT Madras, Master in Design at National Institute of Design, Bengaluru campus	Winner	1,00,000	Phone number: 7728824349 Email ID: manish_j@nid.edu , jadhav.manish221@gmail.com
Team MAHV, Indian Institute of Science, Bangalore	First runner-up	NA	Phone number: 9500079982 Email ID: abhinayak@iisc.ac.in
Team MAGNA, Indian Institute of Science, Bangalore	Second Runner-up	50,000	Phone number: 9396613888 Email ID: mathangik@iisc.ac.in
Team WASHOO, Indian Institute of Science, Bangalore	Special mention	NA	Phone number: 9396613888 Email ID: jaswanthb@iisc.ac.in
Gaurav Saksena, Happy Taps	Special mention	25,000	Phone number: 9822057380 Email ID: gaurav@happytap.net
Aga Khan Foundation	Additional support	25,000	Phone number: 8800236668 Email ID: asad.umar@akdn.org
Team TAPB, Indian Institute of Science	Additional support	25,000	Phone number: 8291051444 Email ID: anugyassingh@iisc.ac.in
Merino Industries Ltd, Moti Nagar New Delhi	Finalist		Phone number: 9643814634



Team/Individual	Position	Prize money	Contact details
Ravi Kumar Sharma, Student, Bihar	Finalist		Phone number: 9576488423 Email ID: ravikumarscienceproject@gmail.com
Karupa Foundation Education and Research Centre, Coimbatore	Finalist		Phone number: +91 98422 91558 Email ID: capsridhar@gmail.com
Anant University, Sanskardham Campus, Bopal-Ghuma-Sanand Road, Ahmedabad	Finalist		Phone number: 9004427672 Email ID: atharva.achrekar@anu.edu.in
Sato Tap, Lixil	Finalist		Email ID: sato@lixil.com
Anant University, Sanskardham Campus, Bopal-Ghuma-Sanand Road, Ahmedabad	Finalist		Phone number: 8866721830 Email ID: shreya.nileshshah@anu.edu.in
Category 2: Innovative processes			
Aga Khan Foundation	Winner	1,00,000	Phone number: 8800236668 Email ID: asad.umar@akdn.org
Kendriya Vidyalaya No.1 Roorkee	First runner-up	50,000	Phone number: 9410578969 Email ID: vk64tyagi@gmail.com
Citizens Association for Child Rights, Mumbai	Second runner-up	50,000	Phone number: 9987598509 Email ID: connect.cacr@gmail.com
Eco-Paradigm, Bengaluru	Finalist		Phone number: 9448077904 Email: pravinjith@ecoparadigm.com
Himanshi Gupta and team	Finalist		Phone number: 8588097380 Email ID: himanshigupta29@gmail.com



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