

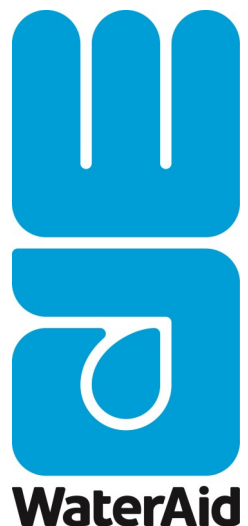
WaterAid Nepal

Learnings and Reflections of Contactless Handwashing Facilities:

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WaterAid/Mani Karmacharya



WaterAid

Introduction

Objectives

The main objective of this document is to highlight the opportunities and challenges faced while placing contactless handwashing facilities as part of the rapid response to Covid-19 and recommend measures for the sustainability of such facilities. The study highlights the effectiveness of the facilities and the challenges in operation and maintenance by collecting information from users and key stakeholders.

Background

WaterAid Nepal's rapid response to Covid-19 pandemic included introducing contactless handwashing facilities in the public places and healthcare centers. Handwashing with soap and water is a first line of defense against COVID-19 ([*Read: How can we ensure everyone can wash their hands with soap and water, to protect lives from COVID-19?*](#)) and the World Health Organisation (WHO) recommended good hand hygiene practice as one of the critical behaviours to reduce the risk of transmission of COVID-19 and other viruses.

WaterAid Nepal initiated this effective facility considering that many public places do not have proper hand washing facilities. WASH is critical measures to curb the pandemic, but the WASH status in Nepal remains below the national

targets². Even though there is an increase in awareness about the importance of hand washing, **52%** of the population in Nepal was reported as not having handwashing facilities with soap and water at their home³. In this context, WaterAid Nepal has started installing contactless handwashing facilities in different parts of Kathmandu Valley and Lahan Municipality from March 2020 as a part of the Covid-19 response in Nepal.

The location for installing such facilities was decided in close coordination with the local governments and local civil society organizations considering flow of people, availability of other handwashing facilities nearby and possibility and willingness of local organizations, who have the capacity to run the daily operation and maintenance of such facilities once WaterAid Nepal hands them over. The installation of such facilities at strategic locations could be a life saver for people who cannot afford alcohol-based hand rub sanitizer or access running tap water. WaterAid Nepal realized that installation of contactless handwashing facilities need to be accompanied by a comprehensive hygiene behavior change programme in order to motivate people to adopt good hand hygiene behavior and combining both in all areas where handwashing facilities are installed.



Contactless handwashing facility is a simple mechanism operated by foot, reducing human hand touch. It helps prevent cross-contamination from frequently-touched surfaces such as taps, which could cause transmission of the coronavirus between users.

WaterAid Nepal has installed **140** handwashing facilities; **65** in Kathmandu valley (33 in market places; 13 in hospitals; 15 in government offices like Municipalities or police offices or other public offices and 4 in other areas like temples and sports academy). WaterAid Nepal in coordination with CCMC (Central COVID crisis management committee) installed **50** more handwashing facilities in isolation and quarantine centers. In

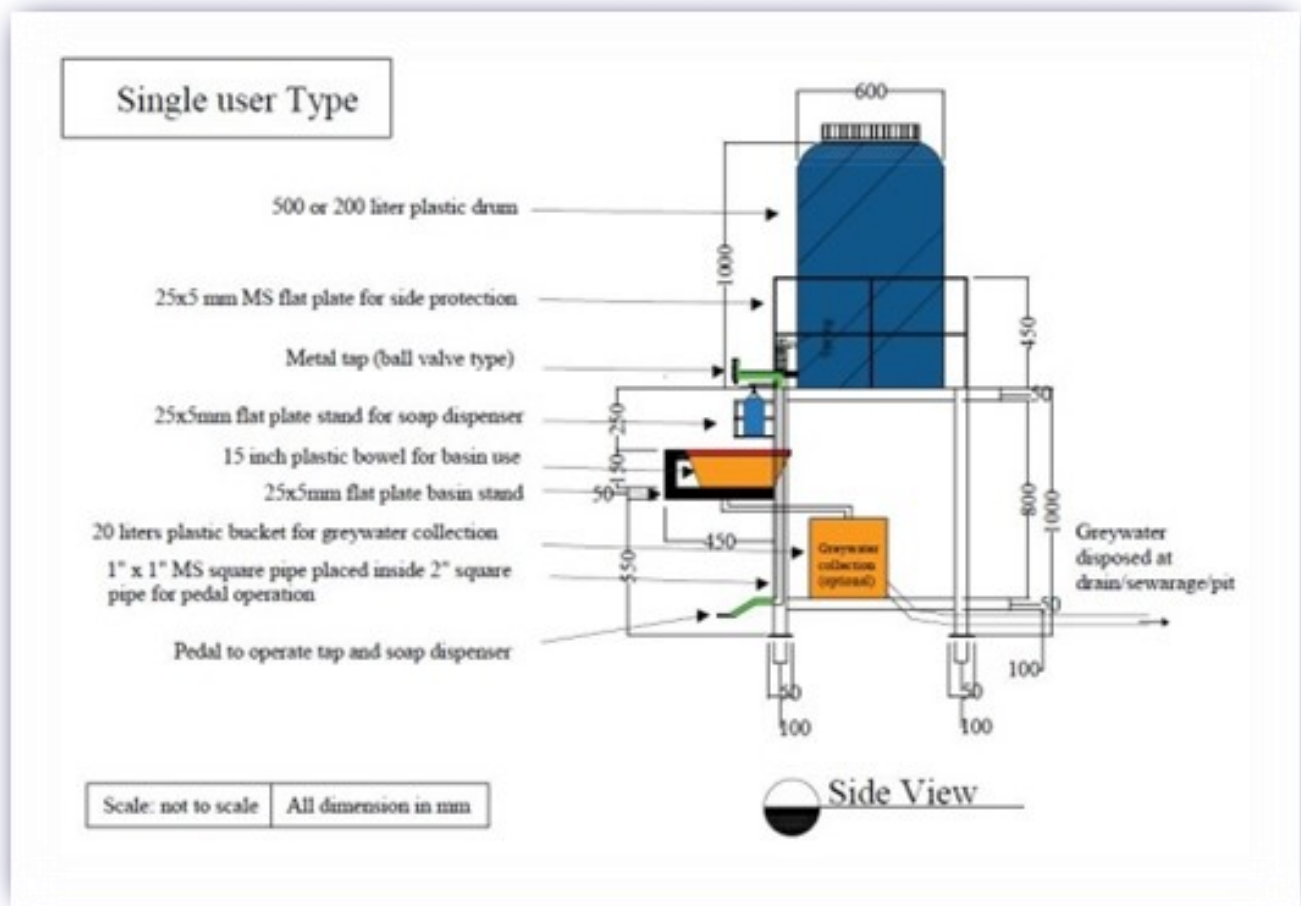
addition to this, **25** such facilities were installed in Lahan (12 in market places; 1 in hospital; 9 in government offices like Municipalities or other public offices and 3 in temples) in the first phase of the intervention. A plan is in place to install **300** more such handwashing facilities in Dolakha, Kavrepalanchowk and Bardiya districts as well.

Contactless Handwashing facility has two pedals at the bottom on both sides to get the required amount of water and liquid soap. Using self-closing taps prevent water being wasted. While observing use of soap and water in such facilities, we found that only one to two liters of water is consumed at a onetime hand wash and 3ml of liquid soap can be extracted by pumping the soap dispenser twice through the pedal, which is less as compared to using traditional handwashing facilities. The water needs to be refilled regularly from other available sources in the tank connected to this facility. The liquid soap needs to be refilled once the soap dispenser is empty. Refilling of the water and liquid soap depends on the numbers of users and the capacity of the water tank and soap dispenser.

The basin drainage pipes of handwashing facilities installed in public places are directly connected to the city drainage or sewer system, and the drainage pipes of handwashing facilities in hospitals are connected to the hospital drainage. The contact less handwashing facility is easy to install in public places. These facilities are taken care of by local communities,

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who ensure safety and security of such facilities.



Please view our [Technical Brief](#) on contactless handwashing facilities
Watch [this video](#) to see how the facilities work.

Research Methodology

A mixed method approach was used in the study for collecting both primary and secondary data to understand the situation in greater depth. The survey covered 50 contactless handwashing facilities in three districts of the Kathmandu valley (25 in Kathmandu, 22 in Lalitpur and 3 in Bhaktapur) to identify the usefulness, challenges and what could be done for the sustainability of such facilities.

The structured observation checklist was used to collect the information of contactless HWFs, which was developed based on WaterAid Nepal's technical and operational guidelines on contactless HWFs. The developed checklist was used in Lahan Municipality (Siraha district) and was later used in this survey covering three districts in Kathmandu Valley. Key informant interviews (KIIs) were conducted by interviewing a selected group of individuals, who have required information, ideas, and insights on the contactless handwashing facilities and those who were engaged in the operation and maintenance of the facilities.

Out of the 50 respondents, 5 were female and 45 were male, which included 34 staff of the office where handwashing facilities are placed, 12 ward chairperson/ members and 4 social leaders. A technical inspection was also conducted by

WaterAid Nepal's technical team in reference to Indicators based on user-centered design and effectiveness for hand hygiene.

The target group of the study were government authorities, municipalities and institutions where contactless handwashing facilities were placed, representatives of wards, who are taking ownership of such facilities, community groups involved in monitoring of such facilities and keen on the sustainability issues going forward, general public and other peer organisations, who have installed similar handwashing facilities in Kathmandu valley and other locations. Some users were interviewed to know their experience of using such handwashing facilities.

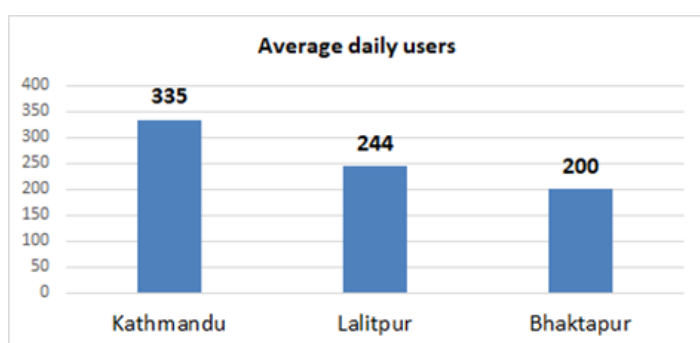


Research Findings and Analysis

This survey was designed to determine the effects and impact of contactless handwashing facilities and to discover methods on how they are used to manage the Covid-19 situation, since handwashing with soap is one of the critical behaviors being promoted to reduce the risk of infections.

The **50** handwashing facilities are used by approximately **14,335** people on a daily basis with an average of **287** users daily. The daily users vary from one place to another with the highest number of users in Kathmandu district, and lowest in Bhaktapur district. Average users in hospitals are the highest (**534**), followed by average users (**333**) in temples, (**221**) in government offices, and (**205**) in market areas.

District wise average daily users per handwashing facility



100% of the respondents were of the view that the handwashing facilities were placed in the right place and were safe to use. About **82%** of the facilities are being

used easily by children above five years old, whereas **42%** of the facilities are being used by people with disability.

Operation and Maintenance

- **92% HWFs** have a responsible person to take care of the facility. (22 HWFs managed by the staff of the office they are placed, 20 by the project staff and 4 by the local people or businesses located near the HWF). One in Kathmandu municipality and three in Lalitpur municipality have not appointed a responsible person for HWFs. However, the local implementing partner, who is facilitating coordination to install such handwashing facilities is in contact with the local government to appoint a responsible focal person or institution to look after such facilities in the long run.
- The water in **94% HWFs** is being regularly refilled (53% by project staff, 36% by concerned office, about 10% by location organizations and people). One HWF in Kathmandu municipality does not have regular water refilling system since it is located in a busy market area and it gets difficult for the water tanker to park the vehicle. Water is filled in the station two to three times in a day but the water is sufficient only to

cover the crowd for few hours. Two HWFs in Lalitpur municipality have the same problem because the usage is very high and water needs to be refilled every two hours.

- The liquid soap in **82% HWFs** is being regularly refilled. (49% by project staff, 41% by concerned office, about 10% by local organizations and people.) One HWF in Bhaktapur municipality and eight HWFs in Lalitpur municipality do not have regular liquid soap refilling since the responsible people are not refilling the container on time even though extra liquid soap is handed over to them. The responsible people are not filling the liquid soap on time as they are involved in other work as well and since this being a voluntarily support, they could not constantly monitor the handwashing facilities all the time.

Observation findings

- **98% HWFs** have clear guidance on how to use HWFs. One HWF in Lalitpur municipality-ward 4, Jawalakhel chowk does not exhibit a clear message on how to use.
- **60% HWFs** are found to be in use at the time of observation, whereas 12 HWFs are not being used due to lack of regular water and liquid soap refilling. (7 in Kathmandu, 8 in Lalitpur, 2 each in Bhaktapur and Kirtipur and 1/1 in Chandragiri municipality.)
- **80% HWFs** have either liquid soap (24%) or bar soap (16%). The rest **20% HWFs** have neither liquid nor bar at the time of observation but people interviewed at these stations informed that soap is refilled in a periodic basis
- **94% HWFs wastewater** is well managed. Wastewater of HWFs has direct connection with permanent drainage system and 12% HWFs have either drum or bucket for wastewater collection. Out of 12% HWFs from which wastewater is collected through drum and bucket only about 6% HWFs wastewater are disposed to nearby field and open space.
- **86% HWFs** have functioning foot pedals of both water and liquid soap. The pedals of **14% HWFs** need minor or major repair.
- **96% HWFs** have fully functional water taps, whereas taps of two HWFs in Kathmandu municipality are not working. The condition of the tap in 32 HWFs are very good, taps in 14 HWFs need repair and tap in 2 HWFs need replacement.

Technical survey

Indicators based on user's center design

Convenient and Attractive design: The contactless handwashing facilities are user-friendly and unique because of its contactless mechanism which has promoted handwashing to a great extent.

Accessibility: Contactless handwashing facilities are accessible to most of the users except children under the age of five and people with disabilities. The location to install the handwashing facilities has been carefully identified making it visible to potential users.

Availability of handwashing facilities: Since the handwashing facilities are single user type, sometimes it does not cater to the need due to a large number of users. The hospitals have made handwashing with soap and water mandatory at the entry point. Considering the flow of the patients, there is a need to install additional handwashing facilities. WaterAid Nepal is considering this and planning to install multiple taps in one handwashing facility, which helps to cater the need of many people.

Indicators based on effectiveness for hand hygiene

Availability of soap and water: It was found that the vendor supplies water and liquid soap daily. Once the responsibility is handed over to the municipalities, they will be accountable for operation and maintenance, for which they will allocate a separate budget during the budget session. The hospitals have been refilling the liquid soap and water themselves and the maintenance will be taken care by the maintenance department in the hospital.

In some cases, the liquid soap container was found to be empty since the capacity of the container is not sufficient to serve large number of users and also people have been seen using excess soap at times. Regular monitoring is essential to keep the facilities functioning well.

Prevention of cross contaminations: Since contactless handwashing facilities reduce hand touch, users felt it reduces contamination, but the facility needs to be cleaned and disinfected from time to time, a practice which needs to be encouraged more often. In some instances, water leakage from taps can be stopped only by pushing up the tap by hand.

Durability and Reliability– The handwashing facilities are fully functional and no major repair are required till date. Repair and maintenance is easy since the materials used in the facility are easily available in the market at a nominal rate. The liquid soap has a reactive nature to iron hence rusting has been noticed. It was observed that the spring on the foot operated pedal gets damaged if force is applied, regular tightening of the nuts is needed to keep the parts intact.



Contactless Handwashing Facility at TU Teaching Hospital

Learnings

Effective way to promote hand washing

- Contactless handwashing facilities are an effective way to promote handwashing and people find these facilities useful. However, the location to install the contactless handwashing facilities should be carefully selected making it visible to maximum number of potential users.
- Hygiene promotion campaigns alongside installing contactless handwashing facilities would help in further motivation for proper handwashing and use of handwashing facilities.

Technical Design

- Based on the learnings from the first phase, there is a need to modify the handwashing facility in terms of tap, spring durability, soap container volume etc. to address the gaps seen in current stations.
- Soap containers should be bigger in size and should be attached to the basin to avoid rusting, which is caused by the reactive nature of the chemicals in the soap with iron surface. Rusting can also be avoided by applying multiple coats of corrosion resistant metal paint.
- It is essential to disinfect and clean the handwashing facilities to avoid cross contaminations. Disinfection can be done by using 0.1% chlorine on a daily basis as prescribed in the WAN's technical brief of HWF. Maintaining cleanness should be the part of the operation and management responsible person/institution.
- It is efficient and cost effective while producing hand washing facilities at the local level using local vendor, so this should be implemented in the next phase.

Sustainability working with local authorities

- The local authorities or relevant organizations, where such facilities are installed, seem to be happy to take over such facilities and also take the responsibility for operation and maintenance, but continuous follow up and monitoring is needed to ensure sustainability of such facilities in the long run.
- Some alternative ways of refilling water (connecting through existing water systems) need to be explored for sustainability in the long run as refilling water by tanker may not be cost effective particularly in crowded areas where water needs to be refilled frequently. There is a need to work on sensitizing the public especially, users about the importance of such facilities and proper use of soap and water to avoid wastage.
- Some institutions like hospitals have started refilling water on their own through a

piped connection rather than bringing a tanker, which is cost effective, so, same practice can be replicated in other areas and institutions.

- Local technicians should be trained for maintenance of such facilities for easy access to repair and cost effectiveness. Regular greasing and tightening of nuts should be done as a part of the repair and maintenance work on a regular basis to keep the parts intact.

Examples of Best Practices- Case study

A contactless handwashing facility placed in the solid waste transfer center in Ratopul, Kathmandu is serving around 45 sanitation workers daily and additional pedestrians as well.

Ram Thami, a sanitation worker at the center says, "Few years ago a hand pump was installed in our office, but it was dismantled a year ago due to widening of the road under the Ratopul bridge. After that, there has been no proper handwashing facility for us and we often borrowed water from nearby households, which was not always easy.." He added, "This contactless handwashing facility is a boon to us since it is very comfortable to use. The liquid soap was always running out faster. Now our office provides a bar of soap daily, which is sufficient for us. The spring in the foot pedal seems to be loose and needs to be replaced and rusting is witnessed in the steel."

Please watch [this video](#) to see how contactless handwashing facilities are helping people maintain hand hygiene.



WaterAid/Mani Karmacharya

Conclusion and Way Forward

Since handwashing with soap and water is crucial to help prevent the spread of Covid-19, contactless handwashing facilities have not only provided the public access to handwashing but also an effective way to motivate people to follow hygiene behaviours. It was observed that the contactless handwashing facilities were installed at a right time when hand hygiene holds utmost importance and in the right strategic locations. These facilities are relevant at the local and policy level as a result they are in use and in high demand by other stakeholders.

Hygiene behaviour change remains an under-invested and challenging area where poverty, lack of information, social and cultural barriers and contexts are often stated as reasons for impeding lasting behaviour change. It is crucial to continuously engage with the Government and relevant organizations to install contactless handwashing facilities to determine the standard of the facilities and also encourage the Government to replicate it in other areas in need.

In this context, it is essential to replicate easily accessible handwashing facilities with hygiene promotion campaigns at a larger scale with clear sustainability plans.





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