

Hands-Free HWWS stations: a consolidation of **handwashing with soap stations** with increased desirability due to less hands contact -v4-28May2020
Send complements, more models and your feedback to Pierre Fourcassie, pfourcassie@unicef.org – This brief will be completed/updated twice a month. **Use the latest version.**

Hands-free HWWS compendium document #1

Type	Characteristics	Hyperlinks	Cost	Sources
All hand-free types (operated by foot, forearm, knee...)	<p>The purpose of this compendium consolidated by Engineers Without Borders (May 2020) from/for WASH CSOs and stakeholders in Uganda and relevant for other countries affected by COVID-19 crisis. It presents 8 HWWS stations, low cost& low tech, currently in use. This handbook aims to provide the user with a series of options for the installation of handwashing stations. The document is divided into three typologies of hands-free handwashing technologies: push valve (1-3), foot pedal (4-6) and automated (7-8). Each technology will have an introduction, a key set of criteria with scoring, a Bill of Materials (BoM) and a "How-To" section. This allows the user to identify the most appropriate technology for their own needs, be it rapid deployment, portability or permanence, user friendliness, cultural acceptance, available materials or cost considerations.</p>	 <p>Temporary location of the document: https://drive.google.com/file/d/1LxvikqqBPINBVDMxBzBQ981vhFEg5Oy/view?usp=sharing</p>	Cost for all models in the document	EWB Engineer Without Borders-USA

Pictures or drawings:



1-Tap Up Hand Sink



2- WASHalot



3-Steel Barrel



4- Tippy Tap



5- Camp



6- Arup/British RC



7- IUIU Hand Washer



8- SUNami Solar Handwasher

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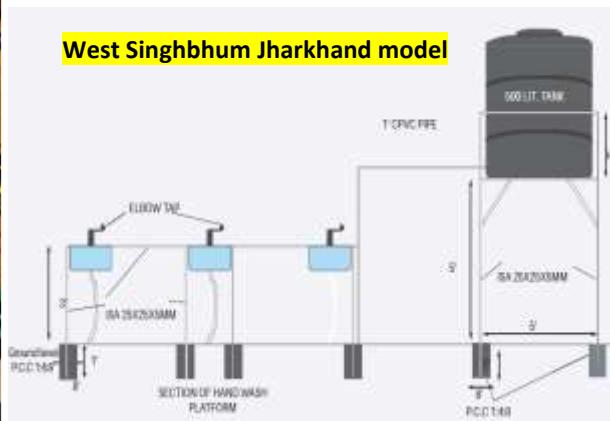
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Hands-free HWWS compendium document #2

Type	Characteristics	Hyperlinks	Cost ranges	Sources
Most of HWWS station presented in this compendium are hand-free type	<p>This compendium from UNICEF India (April 2020) presents 7 HWWS stations currently in use, with indicative layout, designs and cost estimates, and pictures. The selection of HWWS has been made to satisfy 11 design criteria relevant for COVID-19 and other public health crisis situations. Finally the document provides checklist for installation and O&M of the stations.</p> 	<p><i>Link to the UNICEF India compendium of HWWS facilities 2020</i> https://drive.google.com/open?id=1Zwytk3gfwNRsGDhLMrBmXRSw-3tWxr7R</p>	Cost for all models in the document	UNICEF India



Bhopal model



West Singhbhum Jharkhand model



Chhattisgarh model



Stainless steel foot operation model

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Hands-free HWWS single entry #1

Type	Characteristics	Hyperlinks	Cost ranges	Sources
Hand-free, foot operated device	<ul style="list-style-type: none"> - made locally - adapted with a large container of water, a sink fitted with a hose to collect used water - can be connected to water network - Support shaped in metal - Heavy duty : 4/5 	https://www.facebook.com/aminatadorothee.zerbo/video/1085227231824331/ DA1NzkwNjI6MTA5MjwNzU4NTE5NDQyNDc/	tbc	ACF Action Contre La Faim – Mission Madagascar <small>Catalogue DLM sans contact Avril 2020- WASH Cluster Madagascar</small>

Pictures or drawings:



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Hands-free HWWS single entry #2

Type	Characteristics	Hyperlinks	Cost ranges	Sources
Hand-free, foot operated device	PROTOTYPE DLM - to be completed <ul style="list-style-type: none"> - Support adaptable to most buckets or other cans available locally (20-25l) - Can be used at health facilities or at community level - Does not require plumbing installation - Maybe made with local materials (Metallic or wooden) - Easy to operate - Heavy duty: 5/5 (metal model) 	 Mise en page DLM 20L VF.pdf	If metal : 26 USD If wood : 13 USD Bucket : 6 USD	UNICEF Madagascar Catalogue DLM sans contact Avril 2020- WASH Cluster Madagascar

Pictures or drawings:

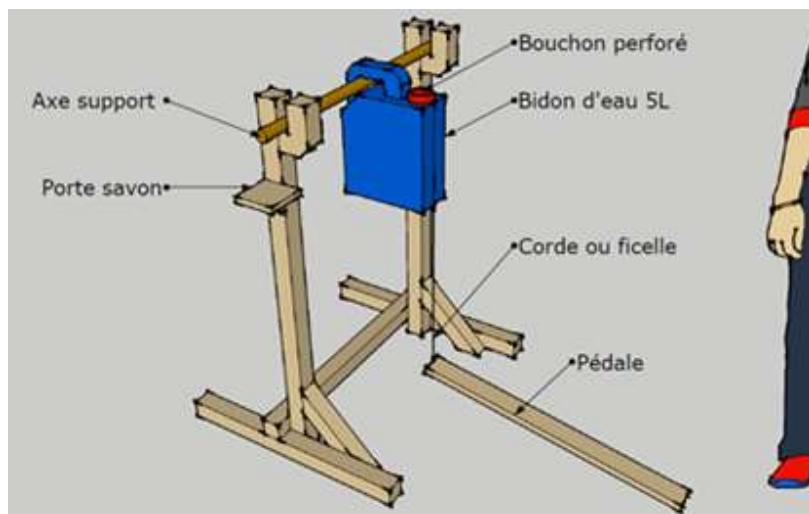


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Hands-free HWWS single entry #3

Type	Characteristics	Hyperlinks	Cost ranges	Sources
Hand-free, foot operated device	<ul style="list-style-type: none"> - DLM which can be adapted according to the containers used by households (5l) - Can be used especially at community level - Does not require plumbing installation - The support can be shaped with local materials (metallic or wooden) - Easy to operate ; Easy to move - Heavy duty: 2/5 	 PLAN DLM 5L sans contact type 2.pdf  VID-2020 DLM SC 1.mp4	Coût : Structure en matériaux locaux : 10 USD (38 000 Ar)	UNICEF Madagascar Catalogue DLM sans contact Avril 2020- WASH Cluster Madagascar

Pictures or drawings:



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Hands-free HWWS single entry #4

Type	Characteristics	Hyperlinks	Cost ranges	Sources
Hand-free, forearm operated device	<p>CRS "HOW TO MAKE A DISPOSITIF DE LAVAGE DE MAIN"</p> <p>DLM sans contamination Ce nouveau dispositif de lavage des mains (DLM) adhère aux principes du CDS dans la Région via-nord-australe pour contribuer à la lutte contre COVID-19. CRS, avec ce modèle, les mains ne touchent pas l'écoulement de savon et d'eau, alors à côté des lave-mains sanitaires existants sur les sites, ainsi le DLM démonte facile et on peut le laver les mains. Sécurité avec 0 contact avec les mains, surtout le munition, la tôle, la bouteille.</p> <p>Quel sont les besoins Un mouvement rapide utilisant une pompe péristaltique pour marquer, des filtres et un flacon de 250 litres de bouteilles.</p>  <p>Outils: scie à bois pour couper la tête du bocal et tout ce que vous voulez. Un cutter ou faire le trou bien rond et facile au clouer la tête de la bouteille. Tuyau plastique 25 litres de bouteilles d'eau très à moins de 100 N pour la pompe à main ou 100 N à faire écouler.</p> <p>Comment fonctionne Pousser pour faire marche "lire pour arrêter".</p> <p>Avantage Bonne utilisation des coûts.</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Ingenious mechanism, low-cost, low tech, partly made of reused plastic bottle. Heavy duty: 2/5 Watch the video!</p> </div>	 Photos DLM.msg  VID-2020-DLM SC 8.mp4	<u>Coût support</u> Structure en matériaux locaux : 10 USD (38 000 Ar)	 Madagascar crs.org crsespanol.org <i>Catalogue DLM sans contact Avril 2020- WASH Cluster Madagascar</i>



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Hands-free HWWS single entry #5

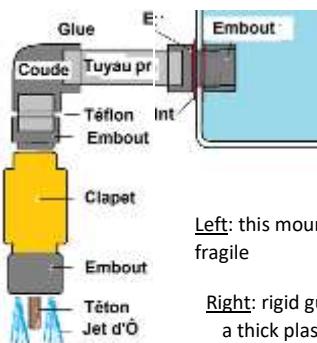
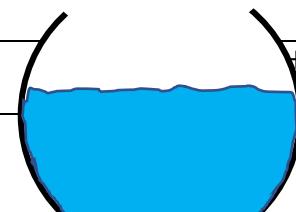
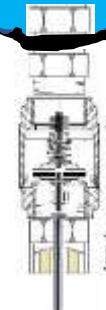
Type	Characteristics	Hyperlinks	Cost ranges	Sources
Hand-free, foot operated device	<ul style="list-style-type: none"> - Locally made - Suitable with a large container of water and a bucket to collect the used water - Support shaped in metal, with the existence of a hydroalcoholic gel and / or liquid soap holder - Difficult to move - Heavy duty : 4/5 	 VID- 2020 DLM SC 4.mp4	tbc	ACF <i>Madagascar Catalogue DLM sans contact Avril 2020- WASH Cluster Madagascar</i>

Pictures or drawings:



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Hands-free HWWS single entry #6

Type	Characteristics	hyperlinks	Cost ranges	Sources
Device operated with the back of the palm	<p>Push system, various type of mounting. Suitable for multiple push taps along a robust plastic or GI pipe (>1m apart) Heavy duty: 3/5</p>  <p>-</p>  <p><u>Left:</u> this mounting may be fragile</p> <p><u>Right:</u> rigid gutter made of a thick plastic or GI pipe. Water seal with piece of inner tube rubber</p>  	 Objet: Fabrication de téton de DLM et de su...	Push system only: 15 USD	 Water & Sanitation for the Urban Poor

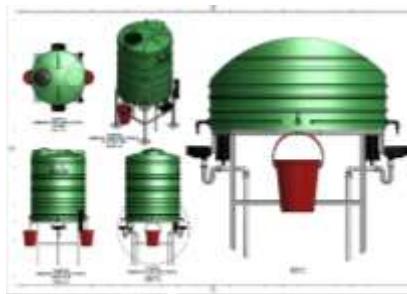
Pictures or drawings:

Note: this model is the same or very similar to the "WASHalot" presented in the compilation entry #1: [Hands Free HWWS EWB-USA](#)



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Hands-free HWWS single entry #7

Type	Characteristics	Hyperlinks	Cost ranges	Sources
Device operated with the back of the palm	4 outlets; heavy duty → durable; high storage; grey water: soak pit; can be connected to water network and sewage; We are working on a next generation more robust and child-friendly	 https://drive.google.com/open?id=1mCuWgnhtvkUiZPcC4LVLNs4axnWJDksg https://drive.google.com/open?id=17nvDCzCI8iZf0mxZqWw--rjrhxAU5J	1,100 USD installed	UNICEF South Africa More info : ismulders@unicef.org

Pictures or drawings:



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Hands-free HWWS single entry #9 -note: single entry #8 was removed

Type	Characteristics	Hyperlinks	Cost ranges	Sources
Hand-free, forearm operated device	Heavy duty, with/without connections to water and wastewater network Recommended to add a GI pipe to the tap to make it easier to operate with forearm Heavy duty: 4/5 More info: tbc	tbc	tbc	Save the Children Somalia

Pictures or drawings:



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Hands-free HWWS single entry #10

Type	Characteristics	Hyperlinks to tech docs	Cost ranges	Sources
Hand-free, foot operated device	<ul style="list-style-type: none"> - Liquid soap and push tap actioned by foot; - made locally; - storage up to 200 litres; grey water to soakpit or manually poured to sewage network - heavy duty 4/5 	Link to video https://drive.google.com/open?id=1a7nfQoVF8aFTjBKUCzr-8cAyDM7WIG	-large HWWS for community use unit price - 635 USD -HWWS station portable (20L) - 22USD -HWWS portable (60L) - 81 USD	UNICEF Uganda

Pictures or drawings:



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Hands-free HWWS single entry #11

Type	Characteristics	Hyperlinks	Cost ranges	Sources
Hand-free, foot operated device	Liquid soap and push tap actioned by foot; made locally; heavy duty 4/5; storage up to tbc litres; grey water to soakpit or manually poured to sewage network Currently, there are at least three manufacturers in Zambia who are producing these. UNICEF is working with them and the Disability Association of Zambia to make the facility disability-friendly Heavy duty: 4/5	https://drive.google.com/file/d/16csEATy6TlNmnhutbz2q4tvpxXCV-/view?usp=sharing https://drive.google.com/file/d/18wH7VIAzAHCOIe8OP6XTX8Hdkk4P/view?usp=sharing https://drive.google.com/file/d/1A1tP0-f4gtbk57ddyJT768x2EP8fz7/view?usp=sharing https://drive.google.com/file/d/1gwu5wVFydkkTnTKRbvqewYBErO/view?usp=sharing https://drive.google.com/file/d/1pOKAFB4fTBtxHRh-nXMVQXc-zmKt/view?usp=sharing	tbc	UNICEF Zambia

Pictures or drawings:



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Hands-free HWWS single entry #12

Type	Characteristics	Hyperlinks	Cost	Sources
Dip & hang up device	This low-cost low-tech HWWS device is presented in the excellent booklet How to Make Simple Handwashing Device (Teaching ecological sanitation series) by Peter Morgan and Annie Kanyemba. This device can be adapted (with precautions) to situation with disease outbreak risks (cholera, COVID-19) using water with diluted chlorine @ 0.05% FRC Heavy duty: 2/5	https://www.aquamor.info/uploads/3/4/2/5/34257237/ess.15_how_to_make_simple_hand_washing_devices.pdf	Few cents of a dollar (metal wire) and reusing material	Peter Morgan and Annie Kanyemba. Zimbabwe .

1/ Take the HandWasher from the line and dip it into the water



2/ quickly wet your hands and put the washer back into the bucket



**4/ hang up the handwasher and rinse.
Do not touch it again.
YOU'RE DONE**

Pictures or drawings:



The pupils prepared large numbers of hand washers



Hundreds of pupils from other schools were shown how to make them.

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Hands-free HWWS single entry #13

Type	Characteristics	Hyperlinks	Cost ranges	Sources
Pull & slap up HWWS device	SaniTap <ul style="list-style-type: none"> - No contamination on "second touch" (the tap closes without touching the fingers). Prevention of recontamination - Collapsible design: Allows high volume air movement for quick response - Control of economic water flows: Vital in environments where water is scarce (slums, camps) 3 liters per 10 minutes, enough for a family of 5 to wash their hands 3x / day - Heavy duty: 2/5 	https://www.globalinnovationexchange.org/innovation/sanitap-7f0cf4f8-b708-4ea4-bda4-bfefe75bf3aa  SaniTap.pptx	4 USD	Serge RANAIVOJAONA General Manager Practical water supply solutions for remote & difficult environments madagascar@bushproof.com W: www.bushproof.com & www.bushproof-madagascar.com Bush Proof Catalogue DLM sans contact Avril 2020- WASH Cluster Madagascar

Pictures or drawings:



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Hands-free HWWS single entry #14

Type	Characteristics	Hyperlinks	Cost ranges	Sources
Hands-free, knee operated device	<p>Model on the picture made by Sheffield Africa, Nairobi</p> <ul style="list-style-type: none"> - HWWS block made of stainless steel - Water saving device: percussion or push tap, self-closing, with adjustable automatic cut off after 1-30 seconds. Can be used with flow restrictor. - Ready-to-use: connected to water network; Grey water connected to sewer drain or collected in a tank holder (emptied frequently) - Fully equipped: liquid soap dispenser, tissue dispenser, bin - Heavy duty: 4/5 <p>The principle of knee push tap can be designed by you and made by an artisanal workshop. It should be heavy and cubic shape HWWS stations, made of metal or wood. However stainless still will resist to wet environment.</p>	https://sheffieldafrica.com/products/html/?p=product_full_details&id=2970	480 USD approx	Pictures from Sarit Centre, Nairobi

Pictures or drawings:



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Hands-free HWWS single entry #15

Type	Characteristics	Hyperlinks	Cost ranges	Sources
Hands-free, foot operated device	<ul style="list-style-type: none"> - Smart tippy tap using mechanics principles (kinematic links) of levers, lever arms, slide, arm strokes etc.... The design should be done on paper then tested with cardboard to make sure the strokes for water and soap dispenser are satisfactory. Encourage participation of adolescent. - Made at community level, with wood pieces, bolts, nuts, nails, and string - Use a stand post or a tree as a rigid structure to support the device. Do not plant nails into the tree. - Heavy duty: 3/5 	<u>VIDEO</u> https://drive.google.com/file/d/1TzfQoGKM2RfxnKOobTJRzJsByuMyToKn/view?usp=sharing	10 USD	Shared by social media

Pictures or drawings:



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Hands-free HWWS single entry #16

Type	Characteristics	Hyperlinks	Cost ranges	Sources
	-			X

Pictures or drawings:

Hands-free HWWS single entry #17

Type	Characteristics	Hyperlinks	Cost ranges	Sources
	-			X

Pictures or drawings:

Hands-free HWWS single entry #18

Type	Characteristics	Hyperlinks	Cost ranges	Sources
	-			X

Pictures or drawings:

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