



COVID 19 AND SAFE SANITATION PRACTICES FOR URBAN CONTEXT

**Resource Book of GoI Advisories and
Practitioners' Resources for Indian Cities**

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Acknowledgement

National Institute of Urban Affairs (NIUA) is India's leading national think tank on urban planning and development. As a hub for the generation and dissemination of cutting-edge research in the urban sector, NIUA seeks to provide innovative solutions to address the challenges of a fast urbanising India, and pave the way for more inclusive and sustainable cities of the future. NIUA is also the strategic partner of the MoHUA in capacity building for providing single window services to the MoHUA/states/ULBs.

A national working group was convened in January 2016 with the support of the Bill and Melinda Gates Foundation with the mandate to build consensus around and drive the discourse on Faecal sludge and Septage Management (FSSM) at a policy level, and promote peer learning among members to achieve synergies for scaled implementation and reduce duplication of efforts. The National Faecal Sludge and Septage Management Alliance (NFSSMA) currently comprises of 30 national and international organizations working synergistically towards sanitation solutions in India and works in close collaboration with the Ministry of Housing and Urban Affairs (MoHUA) and several state and city governments through its members.

The strength of the Alliance lies in its diverse membership, which includes research institutes, academic institutions, think-tanks, quasi-government bodies, implementing organizations, data experts, consultants and intermediaries. This enables a multi-disciplinary view of urban sanitation, with members building on each other's expertise. Coming together as a collaborative lent significant solemnity and credibility when approaching the Government, and resulted in policy recommendations that were inclusive, comprehensive, and had buy-in from several stakeholders in the sector. Having members who had worked closely with the government for decades was an added advantage.

Support of Gates Foundation in this initiative is acknowledged.



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- World Bank Group

FOREWORD



The COVID 19 requires an emergency response from Urban Local Bodies and States on several fronts. The global crisis led to a month long lockdown in India that continues till today, at the time of releasing this Resource Book.

Several cities in India initiated massive drives for sanitization of public spaces, particularly in the hot spots of COVID infected areas and ensured a massive deployment of sanitation workers to address this crisis. Hygiene and cleanliness are the strongest weapons in any public health crisis.

Door to door waste collection, emptying septic tanks, addressing safe disposal of bio medical waste and household waste generated from COVID infected people remains a top priority for all cities.

NIUA has collaborated with the National faecal Sludge and Septage Management Alliance (NFSSMA) to support the ULBs and States and any other CSR or Civil society initiatives, to respond effectively to the emergent challenges of urban sanitation. This also includes guidance on sanitation workers safety and protection gear and how to plan an Emergency Response (Proposal and budget for a 3-6 month response) specifically for sanitation work and workers' personal protection gear.

This Resource Book : COVID 19 and Safe Sanitation Practices for Urban Context : is a compilation of important Govt of India Advisories and other Knowledge Resources relating to Urban Sanitation and COVID.

A larger compilation of all available urban sanitation and COVID compiled by NIUA is available on the SCBP website (scbp.niua.org) and is now live.

This work has been anchored at NIUA by the Sanitation Capacity Building Team.

We remain committed to the national resolve, to win this battle against COVID 19.

A handwritten signature in blue ink, consisting of several overlapping loops and a horizontal line, with the name 'Hitesh' written in a cursive style.

Hitesh Vaidya
Director, NIUA
22nd April 2020

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Acronyms

CT	Community Toilet
CPCB	Central Pollution Control Board
CSR	Corporate Social Responsibility
CPHEEO	Central Public Health and Environmental Engineering Organisation
FSTP	Faecal Sludge Treatment Plant
GoI	Government of India
GoUP	Government of Uttar Pradesh
GoO	Government of Odisha
IEC	Information, Education and Communication
IIHS	Indian Institute for Human Settlements
MoHUA	Ministry of Housing and Urban Affairs
MoHFW	Ministry of Health and Family Welfare
MoSJ&E	Ministry of Social Justice and Empowerment
MoEFCC	Ministry of Environment, Forest and Climate Change
MoSJ&E	Ministry of Social Justice and Empowerment
MoRD	Ministry of Rural Development
PIB	Press Information Bureau
PT	Public Toilet
PPE	Personal Protective Equipment
STP	Sewage Treatment Plant
ULB	Urban Local Body
UMC	Urban Management Centre
WHO	World Health Organization

COVID 19 AND SAFE SANITATION PRACTICES FOR URBAN CONTEXT

Introduction

In the context of the unprecedented situation caused due to the Coronavirus (COVID-19) pandemic, health and sanitation workers tackling the crisis at the frontline are amongst the most vulnerable population.

As of mid-April 2020, more than 150,000 people have died after contracting the illness and more than 20 lakh people have been infected globally. This number is continuously rising, and includes many frontline workers due to the nature of their work. Basic preventive measures are being promoted, such as regularly washing hands and using sanitisers and face masks, but these precautions aren't sufficient for sanitation workers.

In India, a sanitation worker is involved in many tasks, such as cleaning toilets, collecting household refuse, medical wastes and garbage, emptying pits and septic tanks, cleaning sewers and manholes, among others. These tasks become all the more dangerous in a health crisis due to the risk of infection. It is during these circumstances that one needs to invest time and energy in ingraining and re-enforcing hygiene related behaviour change and build the capacity of the sanitation workers. This task can be holistically implemented with the help of municipal bodies who are entrusted with the critical job of providing safe sanitation to its citizens.

Purpose

National Institute of Urban Affairs (NIUA) along with the National Faecal Sludge and Septage Management (NFSSM) Alliance Partners, has taken up this initiative of **creating a repository of important government advisories and practitioners' guidance material for Urban Local Bodies (ULBs), state governments, elected representatives, professionals from private and public bodies, to prepare for and address the COVID 19 and Urban Sanitation challenges.**

The documents collated in this resource book have been segregated into various categories as follows.

Part A : Government Advisories

Part B : Practitioners Resources

Part C : Preparing for Emergency COVID Response

Part A : Key Government Advisories include all Orders, Letters, Notifications, Guidelines etc. issued by the national and few state governments.

Government Advisories compilation is for putting in place sanitation related measures to mitigate the impact of Covid-19 in respective cities. This is primarily for state and ULB officials, elected representatives and other parastatal agencies, as references.

Part B : Key knowledge resources comprising practical and operational guidelines, research, posters, reports and publications. These have been collated from a range of resources including private and public organizations working on the ground.

This repository will serve government or non-government agencies, and private agencies who would like to access the knowledge materials, tools and skill sets to engage with COVID-19 related sanitation response.

Part C : Consists of practical guidance for Preparing for Emergency COVID Response.

State governments and ULBs have got into action to address the public health crisis with support of sanitation workers. To this effect, this section includes a categorisation of sanitation workers and their protective gear requirements (including protective outerwear, gloves, gum boots, goggles or a face shield and a mask). It also includes a template to develop a quick budget proposal. This will be able to help any state government, ULB, and public or private agency in developing proposals for funding from state and national government, and CSR funds for safety of sanitation workers.

This Resource Book is a living knowledge resource document, to be updated periodically and is expected to serve as a guidance for a range of sanitation work and workers' safety measures, till the COVID-19 pandemic lasts in India.

The Resource Book is a reference guide for action and implementation. It should be matched with the state and city specific contexts, the government advisories and guidance and used with discretion.

Important documents and knowledge resources have been collated under four themes as follows:

1. Solid Waste Management

The pandemic brings unforeseen challenges regarding safe collection, segregation, transportation, treatment and disposal of solid waste, which is being generated from quarantined households, quarantine and isolation centres, sample collection centres, healthcare facilities and hospitals.

The Central Pollution Control Board has released guidelines to be followed by all the stakeholders including isolation wards, quarantine centres, sample collection centres, laboratories, ULBs and common biomedical waste treatment and disposal facilities. This is in addition to pre-existing practices under Bio-medical Waste Management Rules, 2016. Specific provisions have also been incorporated for states not having Common Biomedical Waste Treatment Facilities and for allowing hazardous waste incinerators to dispose COVID-19 related waste. The guidelines also state the responsibilities of persons operating quarantine camps or home care facilities, the State pollution Control Boards and ULBs.

Ministry of Housing and Urban Affairs (MoHUA), Government of India (GoI) has also prepared an instruction note for steps to protect sanitation workers. The instructions may be issued to all municipal bodies for taking an immediate action on safe disposal of waste from quarantined households, focusing on collection, treatment and disposal of domestic hazardous waste and protective gear for sanitary workers etc. and sanitary workers' livelihoods.

2. Liquid Waste Management

Provision of safe water, sanitation and hygienic conditions are essential for protecting human health during the COVID-19 outbreak. Ensuring good and consistently implemented Water, Sanitation and Hygiene (WASH) and waste management practices in communities, homes, schools, market places and health care facilities will help prevent human-to-human transmission of the virus. The morphology and chemical structure of the COVID-19 virus are similar to those of other human corona viruses, for which there is evidence about both survival in the environment and effective inactivation measures.

Best practices in WASH, particularly handwashing with soap and clean water, should be strictly applied and maintained because these provide an important additional barrier to COVID-19 transmission and spreading of infectious diseases in general. Apart from this, workers should exercise safe social distancing while at work and wear appropriate protective gear. They should also maintain hand hygiene frequently and avoid touching eyes, nose and mouth with unwashed hands. Wastewater carried in sewerage systems should be treated in

well-designed and well-managed Sewage Treatment Plants (STPs), Septage Treatment Facilities and other wastewater treatment works. Each stage of treatment (as well as retention time and dilution) results in a further reduction of the potential risks from COVID-19.

3. Health and Safety of Sanitation workers

Sanitation workers at the frontline of the pandemic are amongst the most vulnerable segments of society due to the nature of their work.

It is difficult to identify households who may be suffering from COVID-19, hence precaution and safe management of all household solid waste generated in this pandemic is required. Therefore, solid waste collection and workers' safety during door to door collection, street sweeping and drain cleaning work must be put under essential public services and precaution has to be exercised to mitigate the impact of COVID-19.

GoI has released multiple guidelines and advisories to be followed by each state and local governments, as well as contractors employing sanitation workers. All the different categories of workers engaged in urban sanitation services and the risk they pose from COVID-19 need to be factored in for securing appropriate Protective Gear (PG). Their employment as contractual or regular staff with the ULBs should not come in the way of provisioning of protective gear.

The protective gear, at the very least, includes gloves, face masks and shoes and may also include other equipment depending on the nature of work being carried out.

4. Sanitisation of Public Places

In the critical phase of COVID-19, community transmission takes place. Hence, it is critical to sanitize public places that witness high number of footfalls (such as parks, markets, tourist spots etc). Areas such as markets, which are accessible even during lockdown periods need to be sanitised during the lockdown period at regular intervals to contain the risk of further spreading the infection. Most importantly, community and public toilets also need to be sanitised on a regular basis depending on the number of users per day, to prevent community transmission.

In addition, common places where many people gather, such as cinema and marriage halls, cremation grounds, railway stations, bus stands, airports, restaurants and dining areas, art and other exhibition centres, conferences and commercial/market places and mandis; need to be sanitised regularly.

Government has issued advisories to this effect which must be followed by all concerned establishments in the time to come.

Material Repository: Thematic Priorities for COVID 19 risk mitigation

Sr No	Sector	Name of Document	Aspects covered	Language	Organisation
Part A: Government Advisories					
1	Solid Waste Management	Guidelines for Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/Quarantine of COVID-19 Patients	Management of SW from isolation facilities, labs and hospitals and Role of the following stake holders : - Responsibilities of persons operating Quarantine Camps/Homes or Home-Care facilities - Duties of Common Biomedical Waste Treatment Facility (CBWTF) - Duties of SPCBs/PCCs - Duties of Urban Local Bodies	English	CPCB, MoEFCC, GoI
2		Instructions for safe disposal of waste from quarantined households	Safe disposal of waste from quarantined households Sanitary workers' attendance	English	MoHUA, GoI
3	Liquid Waste Management	Advisory on Safe Management of Water Supply and Sanitation Services during COVID19 crisis	Persistence of the COVID-19 Virus in Drinking Water, Keeping Water Supplies Safe, Safely Managing Wastewater and Faecal Waste, Toilet and Sanitation, Safely Disposing of Greywater or Water from Washing PPE, Surfaces and Floors, and Recommendations for Indian States, UTs, ULBs and Utilities	English	CPHEEO, MoHUA, GoI
4	Health and Safety of Sanitation workers	Ensuring Health and Safety of Sanitation Workers and Waste-pickers in the wake of spread of COVID-19	Guided the ULBs to prepare the SOP covering: - Mandatory orientation, Social Distancing norms and key precautionary measures - List of Do's and Dont's during work - Providing PPE	English	NSKFDC, MoSJE, GoI
5		Advisory for ensuring Health and Safety of Sanitation workers during COVID19	Standard operating procedures, Specific measures to be taken by sanitation workers, and PPE/Safety gears for sanitation workers and choice of disinfectant.	English	MoSJ&E, GoI
6		Guidelines on rational use of Personal Protective Equipment	Personal Protective Equipment required for sanitary workers Rational for use of PPE in sanitation	English	MoHFW, GoI
7		Role of Frontline workers in prevention and management of Corona virus	Role as a Frontline Worker What is COVID-19? How does COVID-19 spread? People which are at high risk Key messages for prevention Personal hygiene and safety Myths vs. reality for COVID-19	English	MoHFW, GOI
8		Assistance from State Disaster response Fund	For PPE for healthcare, municipal, police and fire authorities	English	PIB, GOI
9		Regarding proposal to support govt through CSR	CSR support for soap and N-95-masks to GoUP	English	GoUP
10		Guidelines for Hygiene and Sanitation in Densely Populated Areas, During the COVID-19 Pandemic	Preventive Measures at home and public areas Face Cover Sanitation and Hygiene: - Hand Washing - Toilet usage - sanitization	English	PIB, GoI

11		Poster: Do's and Dont's during Covid19	Personal hygiene and safety	English	MoHFW, GOI
12		Poster: Do's and Dont's during Covid19	Personal hygiene and safety	Hindi	MoHFW, GOI
13		Poster: Social distancing	Measures to be kept in mind while observing Social Distancing	English	MoHFW, GOI
14		Poster: Social distancing	Measures to be kept in mind while observing Social Distancing	Hindi	MoHFW, GOI
15	Sanitisation of public spaces	Advisory for maintaining cleanliness during lockdown period	Special cleaning of public places Safe disposal of waste from quarantined households Safe disposal of masks and other related waste from non-quarantined households Welfare and protection of Sanitary workers Awareness and enforcement	English	MoHUA, Gol
16		Guidelines on disinfection of common public places including offices	Guidelines on disinfection of: -Indoor areas including office spaces -Outdoor areas -Public toilets Personal Protective Equipment Handwashing technique Guidelines for use of mask	English	MoHFW, Gol

Part B: Practitioners' Resources

1	Liquid waste Management	Guidelines for Desludging operators	Safety measures to be taken by Desludging operators; -Before leaving home, -At work place and -After finishing work Required PPE Hand hygiene	English	IIHS
2		Guidelines for Desludging operators	Safety measures to be taken by Desludging operators; -Before leaving home, -At work place and -After finishing work Required PPE Hand hygiene	Hindi	IIHS
3		Desludging operators' poster	Safety measures to be taken by Desludging operators; -Before leaving home, -At work place and -After finishing work	English	UMC
4		Guidelines for FSTP operators	Safety measures to be taken by FSTP operators; -Before leaving home, -At work place and -After finishing work Required PPE Hand hygiene	English	IIHS
5		Guidelines for FSTP operators	Safety measures to be taken by FSTP operators; -Before leaving home, -At work place and -After finishing work Required PPE Hand hygiene	Hindi	IIHS
6		FSTP operators' poster	Safety measures to be taken by FSTP operator; -Before leaving home, -At work place and -After finishing work	English	UMC

7	Health and Safety of Sanitation workers	PPE for sanitation workers	When to use PPE Appropriate Combination of PPE Sanitation Workers in: -Liquid Waste Management -House Keeping -Solid Waste Management	English	Saniverse
8		D2D Waste collectors' poster	Safety measures to be taken by Waste collector; -Before leaving home, -At work place and -After finishing work	English	UMC
9		Street sweepers' poster	Safety measures to be taken by Street sweeper; -Before leaving home, -At work place and -After finishing work	English	UMC
10		Drain cleaners' poster	Safety measures to be taken by Drain cleaner; -Before leaving home, -At work place and -After finishing work	English	UMC
11		CT caretakers' poster	Safety measures to be taken by CT caretaker; -Before leaving home, -At work place and -After finishing work	English	UMC
12		Handwashing steps Poster	Pictorial representation of hand-washing steps	English	WaterAid
13		Handwashing steps Poster	Pictorial representation of hand-washing steps	Hindi	WaterAid
14		When to wash hands Poster	Important activities before (and after) which hand wash required	English	WaterAid
15		When to wash hands Poster	Important activities before (and after) which hand wash required	Hindi	WaterAid
16		Sanitisation of public spaces	Guidelines for Sanitation Workers (CT/PT)	Safety measures for CT/PT Operators while cleaning, at fee collection desk, emptying waste bins. Required PPE	English
17	Guidelines for Sanitation Workers (CT/PT)		Safety measures for CT/PT Operators while cleaning, fee collection, emptying waste bins etc. Required PPE	Hindi	IIHS
18	Social distancing at CT images		Image showing people practicing Social Distancing at Community Toilet	NA	CWAS, CEPT University



Part A:

GOVERNMENT ADVISORIES

RECOMMENDED MEASURES

1. Guidelines for Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/Quarantine of Covid19 Patients by CPCB on 18 April 2020

Revision 2:

Guidelines for Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients

18th April, 2020

[In suppression of earlier guidelines uploaded at CPCB website on 25/03/2020. Text pertaining to additional information is underlined]



Central Pollution Control Board
(Ministry of Environment, Forest & Climate Change)
Parivesh Bhawan, East Arjun Nagar
Delhi – 110032

Guidelines for Handling, Treatment, and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients – Rev. 2

In order to deal with COVID-19 pandemic, State and Central Governments have initiated various steps, which include setting up of quarantine centers/camps, Isolation wards, sample collection centers and laboratories.

Following specific guidelines for management of waste generated during diagnostics and treatment of COVID-19 suspected / confirmed patients, are required to be followed by all the stakeholders including isolation wards, quarantine centers, sample collection centers, laboratories, ULBs and common biomedical waste treatment and disposal facilities, in addition to existing practices under BMW Management Rules, 2016.

These guidelines are based on current knowledge on COVID-19 and existing practices in management of infectious waste generated in hospitals while treating viral and other contagious diseases like HIV, H1N1, etc. These guidelines will be updated if need arises. This Revision-2 of guidelines is mainly to incorporate specific requirements and responsibilities of persons operating sewage treatment plants at Healthcare Facilities and to clarify on management of general waste from quarantine homes and masks/gloves from other households.

Guidelines brought out by WHO, MoH&FW, ICMR, CDC and other concerned agencies from time to time may also be referred.

Guidelines for handling, treatment and disposal of COVID-19 waste at Healthcare Facilities, Quarantine Camps/ Quarantine-homes/ Home-care, Sample Collection Centers, Laboratories, SPCBs/PCCs, ULBs and CBWTFs is give below;

(a) COVID-19 Isolation wards: (isolation wards are those where COVID-19 positive patients are being kept for treatment / diagnosis)

Healthcare Facilities having isolation wards for COVID-19 patients need to follow these steps to ensure safe handling and disposal of biomedical waste generated during treatment;

- Keep separate color coded bins/bags/containers in wards and maintain proper segregation of waste as per BMW Rules, 2016 as amended and CPCB guidelines for implementation of BMW Management Rules.
- As precaution double layered bags (using 2 bags) should be used for collection of waste from COVID-19 isolation wards so as to ensure adequate strength and no-leaks;
- Collect and store biomedical waste separately prior to handing over the same CBWTF. Use a dedicated collection bin labelled as “COVID-19” to store COVID-19 waste and keep separately in temporary storage room prior to handing over to authorized staff of CBWTF. Biomedical waste collected in such isolation wards can also be lifted directly from ward into CBWTF collection van.
- In addition to mandatory labelling, bags/containers used for collecting biomedical waste from COVID-19 wards, should be labelled as “COVID-19 Waste”. This marking would enable CBWTFs to identify the waste easily for priority treatment and disposal immediately upon the receipt.
- General waste not having contamination should be disposed as solid waste as per SWM Rules, 2016.

Guidelines for Handling, Treatment, and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients – Rev. 2

- Maintain separate record of waste generated from COVID-19 isolation wards
- Use dedicated trolleys and collection bins in COVID-19 isolation wards. A label “COVID-19 Waste” to be pasted on these items also.
- The (inner and outer) surface of containers/bins/trolleys used for storage of COVID-19 waste should be disinfected with 1% sodium hypochlorite solution daily.
- Report opening or operation of COVID-19 ward and COVID ICU ward to SPCBs and respective CBWTF located in the area.
- Depute dedicated sanitation workers separately for biomedical waste and general solid waste so that waste can be collected and transferred timely to temporary waste storage area.
- Feces from COVID-19 confirmed patient, who is unable to use toilets and excreta is collected in diaper, must be treated as biomedical waste and should be placed in yellow bag/container. However, if a bedpan is used, then faeces to be washed into toilet and cleaned with a neutral detergent and water, disinfected with a 0.5% chlorine solution, then rinsed with clean water.^{a1}
- Collect used PPEs such as goggles, face-shield, splash proof apron, Plastic Coverall, Hazmet suit, nitrile gloves into Red bag; a²
- Collect used masks (including triple layer mask, N95 mask, etc.), head cover/cap, shoe-cover, disposable linen Gown, non-plastic or semi-plastic coverall in Yellow bags. a³

[^{a1 to a3} Inserted in Rev. 2 of guidelines dated 18/04/2020]

(b) Sample Collection Centers and Laboratories for COVID-19 suspected patients

Report opening or operation of COVID-19 sample collection centers and laboratories to concerned SPCB. Guidelines given at section (a) for isolation wards should be applied suitably in in case of test centers and laboratories. Pre-treat viral transport media, plastic vials, vacutainers, eppendorf tubes, plastic cryovials, pipette tips as per BMW Rules, 2016 and collect in Red bags.^{b1}

[^{b1} Inserted in Rev. 2 of guidelines dated 18/04/2020]

(c) Responsibilities of persons operating Quarantine Camps/Homes or Home-Care facilities*

Less quantity of biomedical waste is expected from quarantine Camps / Quarantine Home/ Home-care facilities. However, the persons responsible for operating quarantine camps/centers/home-care for suspected COVID-19 persons need to follow the below mentioned steps to ensure safe handling and disposal of waste;

- General solid waste (household waste) generated from quarantine centers or camps should be handed over to waste collector identified by Urban Local Bodies or as per the prevailing local method of disposing general solid waste.

Guidelines for Handling, Treatment, and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients – Rev. 2

- Biomedical waste if any generated from quarantine centers/camps should be collected separately in yellow colored bags (suitable for biomedical waste collection) provided by ULBs. These bags can be placed in separate and dedicated dust-bins of appropriate size.
- Persons operating Quarantine camps/centers should call the CBWTF operator to collect biomedical waste as and when it gets generated. Contact details of CBWTFs would be available with Local Authorities.
- Persons taking care of quarantine home / Home-care should deposit biomedical waste if any generated from suspected or recovered COVID-19 patients, by following any of the following methods as may be arranged by ULBs;
 - Hand over the yellow bags containing biomedical waste to authorized waste collectors at door steps engaged by local bodies; or
 - Deposit biomedical waste in yellow bags at designated deposition Centers established by ULBs. The bag again be stored in yellow bag or container; or
 - Handover the biomedical waste to waste collector engaged by CBWTF operator at the doorstep.
- Persons operating Quarantine camps/centers or Quarantine-homes/Home-care should report to ULBs in case of any difficulty in getting the services for disposal of solid waste or biomedical waste.

Clarifications:

- Quarantine Camps / Quarantine-Home are the places where suspected people or the contacts of suspected / confirmed cases who have been directed by authorized hospitals or local authorities to stay at home for at least 14 days or more for observation for any symptom of COVID-19, if any.
- Homecare – Home care facility is a home where care is to be provided to a COVID-19 positive patient at home. ^{c1}
- Biomedical waste at Quarantine Camps / Home-care may also comprise of used syringes, date expired or discarded medicines, used masks/gloves and in case of patients with other chronic diseases may also include drain bags, urine bags, body fluid or blood soaked tissues/cotton, empty ampules etc.
- Biomedical waste generated from Quarantine Camps / Quarantine-Home / Home-care would be treated as ‘domestic hazardous waste’ as defined under Solid Waste Management Rules, 2016, and shall be disposed as per provisions under Biomedical Waste Management Rules, 2016 and these guidelines.
- General waste from Quarantine Camps / Quarantine-Home / Home-care shall be disposed as solid waste as per provisions under SWM Rules, 2016
- Used masks and gloves generated form home quarantine or other households should be kept in paper bag for a minimum of 72 hours prior to disposal of the same as general waste. It is advisable to cut the masks prior to disposal to prevent reuse. ^{c2}

[*Amended in Rev. 1 of guidelines dated 25/03/2020]

[c1 and c2 Amended in Rev. 2 of guidelines dated 18/04/2020]

[c2: Criteria for 72 hours is as per CDC guidelines for Decontamination and Reuse of Filtering Facepiece Respirators]

**Guidelines for Handling, Treatment, and Disposal of Waste Generated during
Treatment/Diagnosis/ Quarantine of COVID-19 Patients – Rev. 2**

(d) Duties of Common Biomedical Waste Treatment Facility (CBWTF):

- Report to SPCBs/PCCs about receiving of waste from COVID-19 isolation wards / Quarantine Camps / Quarantined homes / COVID-19 Testing Centers;
- Operator of CBWTF shall ensure regular sanitization of workers involved in handling and collection of biomedical waste;
- Workers shall be provided with adequate PPEs including three layer masks, splash proof aprons/gowns, nitrile gloves, gum boots and safety goggles;
- Use dedicated vehicle to collect COVID-19 ward waste. It is not necessary to place separate label on such vehicles;
- Vehicle should be sanitized with sodium hypochlorite or any appropriate chemical disinfectant after every trip.
- COVID-19 waste should be disposed-off immediately upon receipt at facility.

In case it is required to treat and dispose more quantity of biomedical waste generated from COVID-19 treatment, CBWTF may operate their facilities for extra hours, by giving information to SPCBs/PCCs.

- Operator of CBWTF shall maintain separate record for collection, treatment and disposal of COVID-19 waste.
- Do not allow any worker showing symptoms of illness to work at the facility. May provide adequate leave to such workers and by protecting their salary.

(e) Duties of SPCBs/PCCs

- Shall maintain records of COVID-19 treatment wards / quarantine centers / quarantines homes in respective States.
- Ensure proper collection and disposal of biomedical waste as per BMW Rules, 2016 and SoPS given in this guidance document;
- Allow CBWTFs to operate for extra hours as per requirement;
- May not insist on authorisation of quarantine camps as such facilities does not qualify as health facilities. However, may allow CBWTFs to collect biomedical waste as and when required;
- In case of States not having CBWTFs as well as rural or remote areas, not having access to CBWTFs, the existing captive facilities of any hospital may be identified for disposal of COVID-19 waste as per provisions under BMW Rules, 2016 and these guidelines. This may include permitting use of deep burial pits for disposal of yellow category waste as per standards prescribed in Schedule II of Bio-medical Waste Management Rules, 2016 .^{g1}
- Coordinate with CBWTFs and ULBs in establishing adequate facilities for collection and disposal of COVID-19 waste.
- In case of generation of large volume of yellow color coded (incinerable) COVID-19 waste, permit HW incinerators at existing TSDFs to incinerate the same by ensuring separate arrangement for handling and waste feeding.

Guidelines for Handling, Treatment, and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients – Rev. 2

[e¹Amended in Rev. 2 of guidelines dated 18/04/2020]

(f) Duties of Urban Local Bodies +

Urban Local Bodies are responsible for ensuring safe collection and disposal of biomedical waste, if any, generated from Quarantine Camps/ Quarantine Homes/ Home Care for COVID-19 suspected persons.

- Information on each Quarantine Camps/ Quarantine Homes/ Home-Care should be available with local administration and provide updated list to SPCBs from time to time;
- In case of quarantine camps, ensure that biomedical waste is collected directly by CBWTFs identified by ULB. Waste from quarantine camps to be lifted by CBWTFs on call basis as and when the biomedical waste gets generated. Provide contact details of CBWTF operator at Quarantine Camps;
- Provide necessary support, security including authorisation to staff of CBWTFs;
- ULB shall engage CBWTF operator for ultimate disposal of biomedical waste collected from quarantine home/home care or waste deposition centers or from door steps as may be required depending on local situation; ULB shall make agreement with CBWTF in this regard.
- ULBs envisage following options to facilitate safe collection and disposal of biomedical waste from quarantined homes/Home care;
 - a) Engage authorized waste collectors for door steps collection of biomedical waste and transfer to collection points for further pick-up by CBWTF; and/or
 - b) In case number of quarantined homes/Home-care units are less, ULBs may engage services of CBWTFs to collect the waste directly from door-steps.
- Provide yellow colored bags (designated for BMW) to the persons responsible for operating Quarantine Camp or home-care. If required, such bags may be provided through CBWTF.
- ULBs shall ensure the following in engaging authorized waste collectors at door-steps or at waste deposition centers;
 - o Create a separate team of workers who shall be engaged in door step waste collection at waste deposition centres or at quarantine homes or home care.
 - o Ensure that only designated staff collects biomedical waste from quarantine homes or home care.
 - o Training should be provided for sanitization, about collection of biomedical waste, precautionary measures to handle biomedical waste.
 - o Impart training to waste collector in handling of biomedical waste including methods of sanitization. Training to waste collectors should be arranged through CBWTF operators;
 - o The staff involved in handling and collection of waste from quarantine homes or home care centers shall be provided with adequate Personnel Protective Equipment such as three layer masks, splash proof aprons/gowns, heavy-duty gloves, gum boots and safety goggles. These PPEs are required to be worn all the time while collecting of waste from quarantine center/quarantine homes/home care/waste deposition centres.

Guidelines for Handling, Treatment, and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients – Rev. 2

- Use dedicated carts / trolleys / vehicles for transport of biomedical waste. Ensure sanitization of vehicles with 1% hypochlorite after each trip.
- Ensure that, waste collectors arriving at quarantine center or at home care shall spray the disinfectant (1% hypochlorite solution) on the bin used for yellow bag.
- Establish common waste deposition centers (as stipulated under SWM Rules, 2016) for receiving / collection of biomedical waste. For this purpose, existing Dhalaos if any may be converted suitably.
- The general solid waste collected from quarantine homes or home care shall be disposed off as per SWM Rules, 2016.
- Services of Common Biomedical Waste Treatment & Disposal Facilities (CBWTFs) and staff associated with CBWTFs for collection, transportation, treatment and disposal of biomedical waste generated from hospitals including COVID-19 isolation wards, Quarantine Camps, etc. may be considered an essential service as part of health infrastructure.
- Facilitate smooth operations of CBWTFs.
- Local agencies / ULBs may take additional measures considering prevailing ground situations and feasibility, however while implementing such measures requirements outlined in these guidelines should be complied.^{f1}

[⁺ Inserted in Rev. 1 of guidelines dated 25/03/2020]

[^{f1} Amended in Rev. 2 of guidelines dated 18/04/2020]

(g) Management of wastewater from HCFs / Isolation Wards ⁺⁺

As per the information available at CDC, the risk of transmission of virus that causes COVID-19 through sewerage systems is thought to be low. Transmission to operators may be possible during treatment of sewage treatment plants, however there is no evidence to date that this has occurred. Therefore, following guidance recommended for HCFs and the operators of STPs;

- Responsible agencies are Healthcare Facilities / Isolation Wards / operators of terminal sewage treatment plants (PHED/Jal Board/etc.).
- HCFs and the agencies operating Sewage Treatment Plants should continue to ensure disinfection of treated wastewater as per prevailing practices to inactivate coronaviruses.
- Operators of ETPs/STPs attached with discharge from Healthcare Facilities and isolation wards should adopt standard operational practices, practice basic hygiene precautions, and wear personal protective equipment (PPE) prescribed for operation of STPs. PPEs should include Goggles, face mask , liquid repellent coveralls, waterproof gloves and Rubber boots.
- During the period of COVID-19 pandemic, utilization of treated wastewater in utilities within HCFs may be avoided.

[⁺⁺ inserted in Rev. 2 of guidelines dated 18/04/2020]

2. Instructions for safe disposal of waste from quarantined households by MoHUA, GoI on 21 March 2020

COVID-19: Instructions for safe disposal of waste from quarantined households

Under Swachh Bharat Mission (Urban), we are collectively working to ensure scientific disposal of municipal solid waste in all cities and towns. Parallely, we are also committed to ensure that the welfare of our sanitary workers are taken care of. Accordingly, given the COVID-19 situation evolving across the country and the associated health hazards, instructions may be issued to all municipal bodies to take the following steps immediately:

1. Safe disposal of waste from quarantined households:

- *For all households where residents are under quarantine, ULB may provide them with **pecially marked** garbage bags for disposing of their wet and dry wastes.*
- *Waste from such quarantined households should be treated as **domestic hazardous waste**.*
- *Hence, these wastes should be **collected** by ULBs **separately** (preferably in separate collection vehicles) and **transported separately**, without mixing with the regular waste from other households*
- *Waste from quarantined households should be disposed off **only through incineration**.*
- *All sanitary workers (including contractual workers and informal sector waste pickers) involved in collection and transportation of waste from quarantined households should be **trained** to handle such wastes safely and should be provided with **Personal Protective equipments**.*

2. Sanitary workers' attendance:

- *In case, because of lockdown or any other related situation in any city, sanitary workers are unable to report for duty, their daily / regular wages **should continue to be paid**, and care taken to ensure that their employment / livelihoods are **not affected** because of their absence.*

3. Advisory on Safe Management of Water Supply and Sanitation Services during COVID19 crisis by CPHEEO, MoHUA, Gol on April 2020



ADVISORY ON

SAFE MANAGEMENT OF WATER SUPPLY AND SANITATION SERVICES DURING COVID-19 CRISIS

CENTRAL PUBLIC HEALTH AND ENVIRONMENTAL ENGINEERING ORGANISATION

MINISTRY OF HOUSING AND URBAN AFFAIRS
GOVERNMENT OF INDIA

April 2020

1.0 Background

This advisory on the water supply and sanitation is relevant to virus contamination including Corona virus. It is intended for Urban Local Bodies and water supply and sewage practitioners and services providers who want to know more about the risk and practices associated with water supply and sewage in the States/UTs. It identifies sanitation workers as a vulnerable frontline category of essential services of water supply and sewage highlights the potential for services providers to step-up their performance and customer-orientation, and underlines the criticality of maintaining the supply chain of material for the sector.

The provision of safe water supply and sanitation services is essential to protect human health during all infectious disease outbreaks, including the COVID-19 outbreak. The application of good and consistently water and sewage management practices at Urban Local Body will help to prevent indirect human-to-human transmission of the COVID-19 virus.

WHO has brought out Interim guidance document on 19 March 2020 which supplements the infection prevention and control (IPC) documents by summarizing WHO guidance on water, sanitation and health care waste relevant to viruses, including corona viruses. It is intended for water and sanitation practitioners and providers and health care providers who want to know more about water, sanitation and hygiene (WASH) risks and practices.

The following recommendations have been made by WHO concerning WASH and the COVID-19 virus.

- (a) Frequent and proper hand hygiene is one of the most important measures that can be used to prevent infection with the COVID-19 virus. WASH practitioners should work to enable more frequent and regular hand hygiene by improving facilities and using proven behavior-change techniques.
- (b) Safe management of drinking-water and sanitation services is essential during COVID-19 outbreak. Extra measures are not needed. Disinfection will facilitate more rapid die-off of the COVID-19 virus.
- (c) Many co-benefits will be realized by safely managing water and sanitation services and applying good hygiene practices.

2.0 Persistence of the COVID-19 Virus in Drinking Water

There are two main known routes of transmission of the COVID-19 virus: respiratory and contact. Therefore, the immediate environment of an infected individual can serve as a source of transmission (contact transmission). Although persistence of corona virus in drinking water is possible, there is no evidence from surrogate human corona viruses that they are present in surface or groundwater sources or transmitted through contaminated drinking water. The COVID-19 virus is an enveloped virus, with a fragile

outer membrane. Generally, enveloped viruses are less stable in the environment and are more susceptible to oxidants, such as chlorine. While there is no evidence to date about survival of the COVID-19 virus in water or, the virus is likely to become inactivated significantly faster than non-enveloped human enteric viruses with known waterborne transmission.

The COVID-19 virus survival time depends on a number of factors, including the type of surface, temperature, relative humidity, and specific strain of the virus. It was reported that effective inactivation could be achieved within 1 minute using common disinfectants, such as 70% ethanol or sodium hypochlorite.

3.0 Keeping Water Supplies Safe

The COVID-19 virus has not been detected in drinking-water supplies, and based on current evidence, the risk to water supplies is low. Laboratory studies has indicated that the virus could remain infectious in water contaminated with faeces for days to weeks. Mostly in all Indian cities, due to intermittent water supply, there are high chances of the sewage influx in the water supply pipelines.

As per the WHO guidelines, a number of measures can be taken to improve water safety, starting with protecting the source water; treating water at the point of distribution, collection, or consumption; and ensuring that treated water is safely stored at home in regularly cleaned and covered containers.

Conventional, centralized water treatment methods that use filtration and disinfection (chlorine, ultraviolet (UV) light, and other oxidants) should inactivate the COVID-19 virus. In India, the acceptable limit of free residual chlorine in drinking water is 0.2 mg/l under normal conditions and when protection against viral infection, it should be minimum 0.50 mg/l as per the BIS Indian Standard for Drinking Water (IS 10500:2012). WHO guidelines recommend, a residual concentration of free chlorine of ≥ 0.5 mg/L after at least 30 minutes of contact time at $\text{pH} < 8$ shall be applied for the centralized disinfection during the outbreak. This has to be taken care by all water supply utilities across India.

In places where centralized water treatment and safe piped water supplies are not available, a number of household water treatment technologies are effective in removing or destroying viruses, including boiling or using high-performing ultrafiltration or Nano membrane filters, solar irradiation and, in non-turbid waters, UV irradiation and appropriately dosed free chlorine.

4.0 Safely Managing Wastewater and Faecal Waste

There is no evidence that the COVID-19 virus has been transmitted via sewerage systems with or without wastewater treatment. However, there are evidences of

excretion of SARS-CoV-2 coronavirus in an infected person's stool. Although it's unlikely that sewage will become an important route of transmission, the pathogen's increasing circulation in communities will increase the amount of it flowing into the sewer system. The detection of the virus in sewage, even when the Covid-19 prevalence is low, indicates that sewage surveillance could be a sensitive tool to monitor the circulation of the virus in the population.

As part of an integrated public health policy, it is advised that the wastewater carried in sewerage systems should be treated in well-designed and well-managed centralized or decentralized wastewater treatment works, with a final disinfection to avoid possible virus contamination.

Moreover, sewage treatment plants in India include disinfection - this is a requirement to meet coliform discharge standards; surrogate for pathogens. Since the COVID 19 virus is an enveloped virus with a fragile outer membrane and thus, less stable in the environment and susceptible to oxidants, like chlorine, this disinfection is deemed capable of its inactivation.

There is a need to emphasize that the already-prescribed protocols are followed properly in the operations and maintenance of sewage/septage treatment plants (STPs and FSTPs) and monitoring must be strengthened at this juncture. Further, while the WHO guideline indicates that there is no evidence that sewage and wastewater treatment workers contracted Severe Acute Respiratory Syndrome, another type of Coronavirus in 2003, it is highly recommended that workers be provided with personal protective equipment (PPE; protective outer wear, gloves, boots, goggles or face shield and mask) and motivated to use these at all times, a major lapse in practice in India. In addition, workers need to be educated on frequent hand washing, and avoidance of touch - eyes, nose and mouth - with unwashed hands.

5.0 Toilet and Sanitation

Consideration should be given to safely managing human excreta throughout the entire sanitation chain, starting with ensuring access to regularly cleaned, accessible, and functioning toilets or latrines and to the safe containment, conveyance, treatment, and eventual disposal of sewage.

For majority of Indian sanitary installations both in urban and rural areas (that do not have centralized sewerage), it is recommended that households are encouraged to use their toilets and keep these clean. For users of community and public toilets, it is recommended that these facilities are properly maintained and cleaned, and all sanitary workers are protected.

The toilet should be cleaned and disinfected at least twice daily by a trained cleaner wearing PPE (gown, gloves, boots, mask, and a face shield or goggles). Sodium

hypochlorite at 0.5% (equivalent to 5000 ppm) may be used for disinfecting surfaces. Particular care should also be taken to avoid splashing and the release of droplets while cleaning or emptying tanks.

Monitoring of the full fecal sludge management chain to be strengthened at this juncture, as a measure of precaution. All de-sludging operations, if being carried out to clean on-site tanks and pits, should be done only following the safety protocols and using the occupational safety equipment. All disposal of fecal matter must be done in designated treatment facilities (STPs, FSTPs, septage receiving stations, etc.) and not let out in open areas and water bodies, irrespective of distances.

6.0 Safe Management of Domestic Health Care Waste

The health care waste must not be mixed with the municipal solid waste. It should be collected and handed over separately. Best practices for safely managing health care waste should be followed. There is no evidence that direct, unprotected human contact during the handling of health care waste has resulted in the transmission of the COVID-19 virus. All health care waste produced during the care of COVID 19 patients should be collected safely in designated containers and bags, treated, and then safely disposed of.

7.0 Personal Protective Equipment

Best practices for protecting the health of workers should be followed. Workers should wear appropriate personal protective equipment (PPE), which includes protective outerwear, gloves, boots, long-sleeved gown, goggles or a face shield, and a mask; after which the individuals should safely remove their PPE and soiled PPE should be put in a sealed bag for later safe laundering. They should perform hand hygiene with an alcohol-based hand rub or soap and water after removing PPE. They should avoid touching eyes, nose, and mouth with unwashed hands.

8.0 Safely Disposing of Greywater or Water from Washing PPE, Surfaces and Floors

It is utmost important to dispose of the greywater or water from washing PPE, surfaces and floors. Currently, WHO recommends to clean utility gloves or heavy duty, reusable plastic aprons with soap and water and then decontaminate them with 0.5% sodium hypochlorite solution after each use. Single-use gloves (nitrile or latex) and gowns should be discarded after each use and not reused; hand hygiene should be performed after PPE is removed.

If greywater includes disinfectant used in prior cleaning, it does not need to be chlorinated or treated again. However, it is important that such water is disposed of in drains connected to a septic system or sewer or in a soak away pit. If greywater is

disposed of in a soak away pit, the pit should be fenced off within the health facility grounds to prevent tampering and to avoid possible exposure in the case of overflow.

9.0 Recommendations for Indian States, UTs, ULBs and Utilities

Along with the above global recommendations, there is a need for prioritizing the following actions:

- (i) **Water Supply:** The WHO Guidelines indicates low-risk to drinking water supplies if treated, however, laboratory studies show risks of virulence in fecal-contaminated water and therefore, chlorination and maintenance of residual chlorine is very important throughout of the distribution system. It is therefore recommended to increase a residual chlorine to ≥ 0.5 mg/l from the present residual chlorine level of 0.2 mg/l, as per BIS 10500 for protection against viral infection during the COVID-19 Crisis.
- (ii) **Sewage:** While there is no evidence of transmission of the COVID-19 virus transmission via sewerage systems with or without sewage treatment, O&M protocols must be followed properly in all STPs, and their performance may be monitoring closely at this juncture. A final disinfection step may be considered if existing wastewater treatment plants are not optimized to remove viruses. Appropriate dosage of chlorination may be decided, depending upon the quality of the effluent, as per the Manual of Sewerage and Sewage Treatment Systems, 2013, published by the Ministry of Housing and Urban Affairs, Govt. of India.
- (iii) **Toilet:** It is recommended that households are encouraged to use their individual household toilets and keep these clean. A person who has been suspected or confirmed COVID-19 disease and quarantined should be provided with their own flush toilet or latrine. The toilet should be cleaned and disinfected at least twice daily by a trained cleaner wearing PPE. For users of community and public toilets, it is recommended that these facilities are properly maintained and cleaned by using disinfectants and all sanitary workers are protected with PPE.
- (iv) **Fecal Sludge:** Monitoring of the full fecal sludge management chain needs to be strengthened at this juncture, as a measure of precaution. Use of individual and community/public toilets must be ensured, and safety and safe-disposal of fecal wastes from on-site structures must be enforced and monitored. disinfectants, and all sanitary workers are protected with PPE.
- (v) **Sanitation Workers' Health and Safety:** Sanitation workers in India are particularly vulnerable to water and sanitation related risks and will be at the frontline of the essential services including sanitation, solid waste management,

etc. Therefore, their safety and welfare must be accorded highest priority by Urban Utilities and ULBs. Proper PPE gear to be provided and their use should be encouraged. Chennai Metro Water Supply and Sewerage Board (CMWSSB) has provided safety suits, N95 masks and gloves to their engineers, workers, tanker drivers and cleaners and the cost of the safety suits sourced from the State is Rs. 800 (US\$11.50) (This may be accessed at https://www.thehindu.com/news/cities/chennai/metrowater-procures-protective-gear-for-field-workers-steps-up-checks-at-facilities/article_31241675.ece and Times of India, April 5, 2020). All sanitary workers need to be educated on frequent hand washing, and avoid touching eyes, nose and mouth with unwashed hands.

- (vi) **Income and Wages to be Protected:** Especially since the majority are employed in the informal sector, as personnel of contractors, and not directly employed by public agencies food and essential supplies to be guaranteed if need be, with supplementary public provision.
- (vii) **Provisions in Sanitation Management Facilities:** These facilities – treatment sites or waste management sites (segregation, processing of solid waste, pumping stations, decanting stations, transfer stations for liquid waste, etc.) should have:
 - (a) facilities for regular hand hygiene using appropriate technique;
 - (b) provision for regular cleaning and disinfection of facilities, equipment and PPE;
 - (c) protocols and facilities for safe management of PPE and waste including any domestic hazardous waste and greywater arising from washing of facilities, PPE and equipment;
 - (d) adequate and accessible toilets facilities for staff, safe excreta management including keeping excreta (faeces and urine) separated from human contact and safe treatment and disposal in the environment;
 - (e) provision of safe drinking-water to staff; water supply for personal hygiene, laundry and cleaning.
- (viii) **Utilities Strengthening Customer Services and Relaxing Revenue Collection for say, a three-month Period:** As shortages of drinking water supplies could affect all protective individual actions and cleaning operations in health-care settings to prevent outbreak, imperative to ensure adequate water supply. Now more than ever with the onset of summer and dwindling water availability. Therefore, utilities must be encouraged to not only use ICT-based solutions for the management of operations, but also use these aggressively for keeping customers informed of water supply timings, minimize waste, quality issues, and so on. Further, like the RBI has recommended to banks, utilities may be provided budgetary subvention by the State Governments so that they are able to relax revenue collection and stop any disconnection or service-

outage that may inconvenience any customer, or public users of WASH facilities.

- (ix) **Supply Chain not to be Disrupted for Chemicals and Material Needed for WASH Installations:** Discuss with vendors and contractors to ensure supply of material and labour at WASH facilities. Diagnose supply chain linkages for materials ascertain challenges production and distribution of chemicals needed for WATSAN services and hygiene in household / community, health care and waste treatment facilities. While production and transportation of such chemicals should be considered as an essential commodity there is also the need to identify and suggest alternates to commonly used chemicals.

- (x) **Recycle and Reuse of Sewage:** Study and develop options for reuse of treated sewage for industries and agriculture to improve water availability and financial sustainability. Considering the hygiene requirements to battle COVID-19, water security across population groups is a necessity and sectoral swaps that ensure clean water availability for residents need to be analyzed and worked out in a phased manner.

4. Ensuring Health and Safety of Sanitation Workers and Waste-pickers in the wake of spread of COVID-19 by NSKFDC, MoSJE, Gol on 7 April 2020

Ensuring Health and Safety of Sanitation Workers and Wastepickers in the wake of spread of COVID-19

As you may be aware, National Safai Karamcharis Finance and Development Corporation (NSKFDC) is an apex corporation under the Ministry of Social Justice and Empowerment, Govt. of India working for the all round socio economic upliftment of its target group which includes Safai Karamcharis including Wastepickers, Manual Scavengers and their Dependents through various loan and non loan based programmes.

Considering the countrywide health crisis due to Coronavirus disease (COVID-19), which has also been declared a pandemic by World Health Organisation (WHO), it is necessary to take effective measures to prevent its spread across the country and also protect our frontline workers who are our best defence to contain and mitigate this pandemic.

You would appreciate that Sanitation workers, Wastepickers and other informal waste collectors are among these silent groups of people who are working tirelessly to prevent the spread of Coronavirus. When it comes to risking their lives for the protection of others, in the present times, they are at par with doctors, healthcare workers and policemen. Therefore, it is imperative for us to understand and provide best support, manage, and protect these individuals as they also face highest risk of becoming infected themselves given their nature of work and exposure.

In view of the above, it is requested to kindly arrange to put in place a Standard Operating Procedure (SoP) for each ULB to ensure health and safety of Sanitation workers and Wastepickers. The SoP may also include following to prevent the spread of COVID-19:

1. Mandatory orientation of Sanitation Workers and Wastepickers on COVID-19, Social Distancing norms and key precautionary measures to be taken including frequent hand-washing, avoid touching their face and wearing Personal Protective Equipments (PPE).
2. List of Do's and Dont's to be practiced while performing their duties and extending necessary support to them.
3. Providing appropriate Personal Protective Equipments, which may include masks, gloves, gumboots, jackets etc. and hand sanitizers, soaps for their safety.

It is requested to take immediate action on above to ensure health and safety of our Sanitation workers and Wastepickers so that we are able to collectively fight and overcome the unprecedented health crisis posed by COVID 19.

5. Advisory for ensuring Health and Safety of Sanitation Workers during COVID19 by MoSJ&E, GoI on 20 April 2020

Advisory for ensuring Health and Safety of Sanitation Workers during COVID-19

In the war against COVID-19 the role of the sanitation workers working in municipalities and other local bodies is of crucial importance.

Considering that sanitation workers are in the frontline in the fight against COVID-19, it is imperative to ensure their health and safety. Keeping this in view, the Ministry of Social Justice has prepared an advisory to be conveyed to all Municipalities and local bodies for strict implementation. Further, these bodies may be asked to orient all the sanitation workers on ways to protect themselves from infection.

I would request for immediate attention to the above.

GUIDELINES FOR SANITATION WORKERS IN VIEW OF COVID -19

Following is expected from departments engaging Sanitation Workers such as Urban Local Bodies/Gram Panchayats/Railways etc to ensure the health and safety of Sanitation Workers/ while performing their sanitation related duties during COVID 19.

A. Putting in Place a Standard Operating Procedure (SoP): A Standard Operating Procedure (SoP) for Sanitation Workers and may be prepared and practiced in view of COVID-19 to ensure their health and safety. The SoP may inter alia include following to prevent the infection of COVID-19 to them:

1. Mandatory orientation of Sanitation Workers on COVID-19, Social Distancing norms and key precautionary measures to be taken including frequent hand-washing, avoid touching their face and wearing Personal Protective Equipments/Safety Gears.
2. List of Do's and Dont's to be practiced while performing their duties and extending necessary support to them in following the same.
3. Providing appropriate Personal Protective Equipments/Safety Gears, which may include masks, gloves, gum boots, jackets etc. along with hand sanitizers, soaps for their safety.
4. Designate a Nodal Officer to lead and monitor the implementation of SoP at the department/ULB level.

B. Specific Measures to be taken by Sanitation Workers: Following good practices are recommended for Sanitation Workers as precautionary measures to prevent the spread of COVID-19:

1. Obtain ID card or permission letter from the ULB and always carry them for movement during the lockdown period.
2. Work clothes must be worn at designated changing areas before starting the day's work. Always use mask, gloves, footwear and appropriate clothing (like long sleeved shirt, long trousers and apron) while at work.
3. Ensure that soaps or hand sanitizers are available while at work place.

4. Avoid putting your gloves in your pocket (better to store them in a designated plastic bag). Never touch your face with gloves.
5. Wash hands with soap and water before and after performing sanitation activities and any time you remove your gloves.
6. Never touch waste/garbage with bare hands. Wash hands and any body-surface accidentally coming in contact with waste material.
7. Workers should maintain at least 1 meter of distance from each other and general public. If workers are in groups, maintain smaller groups and be in the same groups day after day so that if someone falls ill with COVID-19 it will be easier to identify and quarantine others who were exposed.
8. Clean frequently touched surfaces in the work place (door handles, water taps etc.) frequently (once every 2- 4 hours) with disinfectant.
9. After work, wash and clean the work tools and PPE with water and disinfecting cleaner. Keep them for drying under the sun.
10. Remove your work cloth, take a bath using soap and put on your personal clothes at the changing area, before you exit the workplace. Wash the work cloth using disinfectant and get it dried under the sun before next use.
11. In case where there is no bathing facility available at the work place, ensure that you take a bath using soap before entering home.
12. Use speaker phones when using mobile phone to avoid touching face.
13. Encourage co-workers to take leave if they are found to be ill.

C. Personal Protective Equipments (PPE)/Safety Gears for Sanitation Workers and Choice of Disinfectant: Sanitation Workers may be provided appropriate Personal Protective Equipments/Safety Gears to safeguard the health of workers by minimizing the exposure to a biological agent. Following minimum set of safety Gears/PPE to be used by them while carrying out their sanitation related activities.

1. Mask.
2. Gloves.
3. Head band and wrist band.
4. Footwear covering whole foot/ gum boots.
5. Apron/Jacket

Choice of disinfectant

1. Hand wash- preferred option:
 - a. Soap and water
 - b. Alcohol-based hand rub with minimum 60% alcohol (if hands are not visibly dirty)
2. Sodium hypochlorite at 1% (equivalent 10000ppm) for disinfection of surfaces and reusable gloves.
3. Mildly alkaline all-purpose detergent for cleaning surfaces.



6. Guidelines on rational use of PPE in sanitation (abstracts from the guidelines) by MoHFW, GoI on March 2020

Ministry of Health and Family Welfare
Directorate General of Health Services

Novel Coronavirus Disease 2019 (COVID-19): Guidelines on rational use of Personal Protective Equipment

1. About this guideline

This guideline is for sanitation workers in points of entries (POEs), quarantine centers, hospital, laboratory and primary health care / community settings. The guideline uses setting approach to guide on the type of personal protective equipment to be used in different settings.

2. Introduction

Coronaviruses are a large family of viruses, some causing illness in people and others that circulate among animals, including camels, cats and bats. Rarely, animal coronaviruses can evolve and infect people and then spread between people such as has been seen with MERS and SARS.

The outbreak of Novel coronavirus disease (now named COVID-19) was initially noticed from a seafood market in Wuhan city in Hubei Province of China in mid-December, 2019, has spread to more than 185 countries/territories worldwide including India.

The causative agent for COVID-19, earlier termed provisionally as novel Coronavirus has been officially named as SARS-CoV-2.

3. Mode of transmission

There is clear evidence of human-to-human transmission of SARS-CoV-2. It is thought to be transmitted mainly through respiratory droplets that get generated when people cough, sneeze, or exhale. SARS-CoV-2 also gets transmitted by touching, by direct touch and through contaminated surfaces or objects and then touching their own mouth, nose, or possibly their eyes. Healthcare associated infection by SARS-CoV-2 virus has been documented among healthcare workers in many countries.

The people most at risk of COVID-19 infection are those who are in close contact with a suspect/confirmed COVID-19 patient or who care for such patients.

4. Personal Protective Equipment (PPE)

Personal Protective Equipments (PPEs) are protective gears designed to safeguard the health of workers by minimizing the exposure to a biological agent.

4.1 Components of PPE

4.1.1. Masks

Respiratory viruses that includes Coronaviruses target mainly the upper and lower respiratory tracts. Hence protecting the airway from the particulate matter generated by droplets / aerosols prevents human infection. Contamination of mucous membranes of the mouth and nose by infective droplets or through a contaminated hand also allows the virus to enter the host. Hence the droplet precautions/airborne precautions using masks are crucial while dealing with a suspect or confirmed case of COVID-19/performing aerosol generating procedures.

Masks are of different types. The type of mask to be used is related to particular risk profile of the category of personnel and his/her work. There are two types of masks which are recommended for various categories of personnel working in hospital or community settings, depending upon the work environment:

1. Triple layer medical mask
2. N-95 Respirator mask

4.1.1.1 Triple layer medical mask

A triple layer medical mask is a disposable mask, fluid-resistant, provide protection to the wearer from droplets of infectious material emitted during coughing/sneezing/talking.

4.1.1.2. N-95 Respirator mask

An N-95 respirator mask is a respiratory protective device with high filtration efficiency to airborne particles. To provide the requisite air seal to the wearer, such masks are designed to achieve a very close facial fit.

Such mask should have high fluid resistance, good breathability (preferably with an expiratory valve), clearly identifiable internal and external faces, duckbill/cup-shaped structured design that does not collapse against the mouth.

If correctly worn, the filtration capacity of these masks exceeds those of triple layer medical masks. Since these provide a much tighter air seal than triple layer medical masks, they are designed to protect the wearer from inhaling airborne particles.

4.1.2 Gloves

When a person touches an object/surface contaminated by COVID-19 infected person, and then touches his own eyes, nose, or mouth, he may get exposed to the virus. Although this is not thought to be a predominant mode of transmission, care should be exercised while handling objects/surface potentially contaminated by suspect/confirmed cases of COVID-19.

Nitrile gloves are preferred over latex gloves because they resist chemicals, including certain disinfectants such as chlorine. There is a high rate of allergies to latex and contact allergic dermatitis among health workers. However, if nitrile gloves are not available, latex gloves can be used. Non-powdered gloves are preferred to powdered gloves.

5. Rational use of PPE for sanitation

The PPEs are to be used based on the risk profile of the health care and sanitary worker. The document describes the PPEs to be used in different settings.

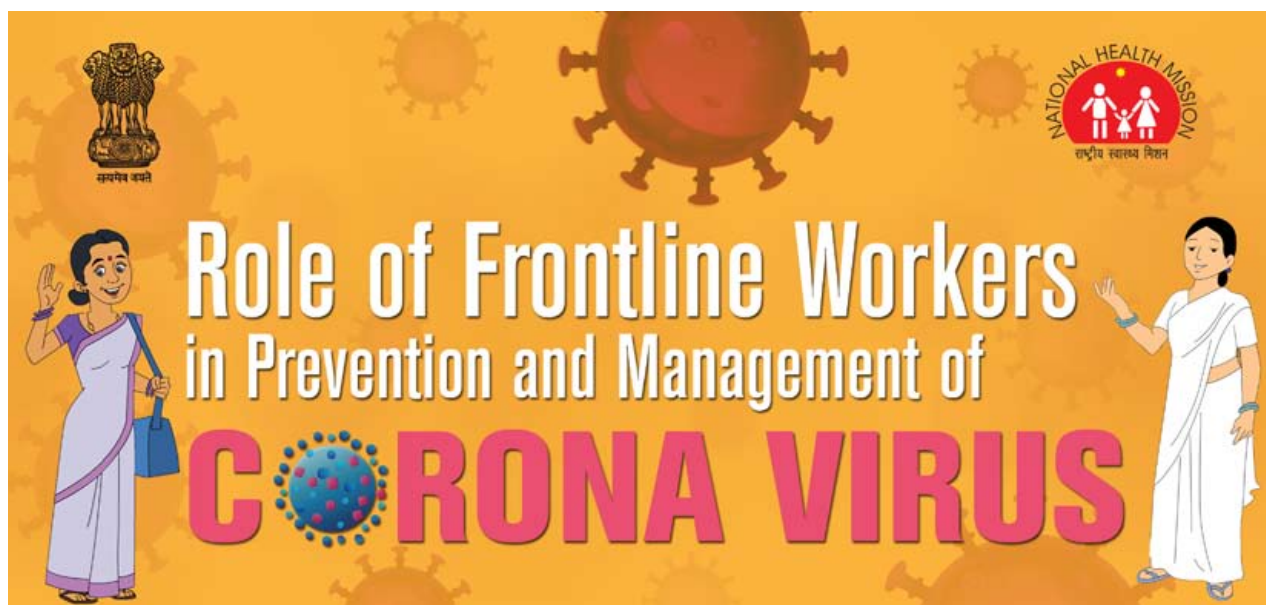
S.no.	Setting	Activity	Risk	Recommended PPE
1	Point of Entry-Sanitary Staff	Cleaning frequently touched surfaces/ Floor/ cleaning linen	Moderate risk	N-95 mask Gloves
2	Hospital setting-Sanitary Staff at Out Patient Department	Cleaning frequently touched surfaces/ Floor/ cleaning linen in COVID treatment areas	Moderate risk	N-95 mask Gloves

3	Hospital setting- Sanitation at In Patient Department	Cleaning frequently touched surfaces/ Floor/ cleaning linen	Moderate risk	N-95 mask Gloves
4	Hospital setting- Sanitation at Other Supportive/Ancillary Services	Cleaning frequently touched surfaces/ Floor/ cleaning line in COVID treatment areas	Moderate risk	N-95 mask Gloves

Points to remember while using PPE:

1. PPEs are not alternative to basic preventive public health measures such as hand hygiene, respiratory etiquettes which must be followed at all times.
2. Always (if possible) maintain a distance of at least 1 meter from contacts/suspect/confirmed COVID-19 cases
3. Always follow the laid down protocol for disposing off PPEs as detailed in infection prevention and control guideline available on website of MoHFW.

7. Role of Frontline Workers in Prevention and Management of Corona virus by MoHFW, GOI

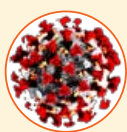


As you know a new respiratory disease called COVID-19 is spreading across the world. India has also reported cases from states and the government is trying to contain the spread of the disease. As an important frontline worker, you play a major role in preventing its spread.

Your Role as a Frontline Worker is two-fold:

1. Spread key messages in the community about measures to prevent the infection.
2. Take actions for early detection and referral of suspected COVID-19 cases.

As a key member of the primary health care team, we want you and your family to be safe. Following the advice in this document will help you in staying safe.



What is COVID-19?

COVID-19 is a disease caused by the “novel corona virus”. **Common symptoms** are:

- ▶ **Fever**
- ▶ **Dry cough**
- ▶ **Breathing difficulty**
- ▶ Some patients also have aches and pains, nasal congestion, runny nose, sore throat or diarrhoea

About 80% of confirmed cases recover from the disease without any serious complications. However, one out of every six people who gets COVID-19 can become seriously ill* and develop difficulty in breathing. In more severe cases, infection can cause severe pneumonia and other complications which can be treated only at higher level facilities (District Hospitals and above). In a few cases it may even cause death.

* Source: WHO

How does COVID-19 spread?

- ▶ COVID-19 spreads mainly by droplets produced as a result of coughing or sneezing of a COVID-19 infected person. This can happen in two ways:
 - ◆ **Direct close contact:** one can get the infection by being in close contact with COVID-19 patients (within one Metre of the infected person), especially if they do not cover their face when coughing or sneezing.
 - ◆ **Indirect contact:** the droplets survive on surfaces and clothes for many days. Therefore, touching any such infected surface or cloth and then touching one's mouth, nose or eyes can transmit the disease.
- ▶ The incubation period of COVID 19 (time between getting the infection and showing symptoms) is 1 to 14 days
- ▶ Some people with the infection, but without any serious symptoms can also spread the disease.

Which group of people are at higher risk of getting infected?



- ▶ People who have travelled to other countries in last 14 days and their family members.
- ▶ People coming from other states if they have been working with people who travelled to other countries in last 14 days.
- ▶ Family members and contacts of patients confirmed to have COVID-19.
- ▶ People older than 60 years of age and people with medical problems like high blood pressure, heart problems, respiratory disease/asthma, cancer or diabetes are at higher risk for developing serious complications..

Key messages to spread for prevention of COVID-19



1. How to avoid getting COVID-19 or spreading it?

a) Practice Social Distancing:

- ▶ **Avoid gatherings** such as melas, haats, gatherings in religious places, social functions etc.
- ▶ **Maintain a safe distance** of at least one Metre between you and other people when in public places, especially if they are having symptoms such as cough, fever etc. to avoid direct droplet contact.
- ▶ **Stay at home** as much as possible.
- ▶ **Avoid physical contact** like handshakes, hand holding or hugs.
- ▶ **Avoid touching surfaces** such as table tops, chairs, door handles etc.



b) Practice good hygiene

▶ Wash your hands frequently using soap and water:

- ◆ After coming home from outside or meeting other people especially if they are ill.
- ◆ After having touched your face, coughing or sneezing.
- ◆ Before preparing food, eating or feeding children.
- ◆ Before and after using toilet, cleaning etc.



Steps of hand washing



Duration 20 seconds



- ▶ While coughing or sneezing cover your nose and mouth with handkerchief. Wash the handkerchief at least daily



- ▶ It is preferable to **cough/sneeze into your bent elbow rather than** your palms.



- ▶ **Do not Spit or shout** in public places to avoid the spread of droplets.
- ▶ **Do not touch your eyes, nose and mouth** with unclean hands.
- ▶ Ensure that the surfaces and objects are regularly cleaned.

2. What to do if you are having symptoms or have travelled to other countries or states in past two weeks?

- Symptoms of COVID 19 and seasonal respiratory illness (common cold/flu) are similar. All people with these symptoms may not have COVID 19.
- Following persons should be quarantined for 14 days at home as a precaution:
 - ▶ People who have travelled to COVID 19 affected countries/areas in past 14 days
 - ▶ Those who have come in close contact with a suspected/confirmed COVID 19 patient
 - ▶ Those who develop symptoms
- These persons should inform you. If symptoms become severe then the person should visit a health facility after speaking with you.



For any COVID 19 related queries, call your State Helpline/Ministry of Health & Family Welfare's 24X7 helpline at 1075 or 011-23978046.

Your role in early detection and referral



- ▶ As a community worker you may be asked to prepare a line list of all people who have travelled to other countries or other states inside India in last 14 days:
 - ◆ Share their names with your Medical Officer at PHC but not with others
 - ◆ Teach them Home Quarantine for next 14 days
 - ◆ Tell them to monitor themselves for symptoms of COVID-19
 - ◆ Tell them to inform you if symptoms develop and call the COVID 19 Helpline



- ▶ **Instructions for the person being Home Quarantined**
 - ◆ Stay in a separate room at home, if possible with an attached/separate toilet. Try to maintain a distance of at least 1 meter from others
 - ◆ Wear a mask at all times. If masks are not available, take a clean cotton cloth, fold it into a double layer and tie it on your face to cover your nose and mouth
 - ◆ Use separate dishes, towels, bedding etc. which should be cleaned separately
 - ◆ The surfaces such as floor, table tops, chairs, door handles etc. should be cleaned at least once a day
 - ◆ Make sure that only one assigned family member is the caretaker



- ▶ **Instructions for the caretaker of the Home Quarantined person:**
 - ◆ Keep a distance of one metre when entering the room
 - ◆ Wear a mask or cover your face with double layered cotton cloth
 - ◆ Wash your hands after coming out of the room
- ▶ **How to use masks (or cloth covering the nose and mouth)**
 - ◆ Wash your hands before putting on the mask
 - ◆ Make sure that it covers both mouth and nose and is not loose.
 - ◆ Do not touch the mask from the front, touch only from the sides.
 - ◆ Make sure to wash your hands after changing the mask
 - ◆ Change the mask every 6-8 hours or when it becomes moist
 - ◆ If using disposable masks, have a dustbin with cover and a plastic bag lining to throw the masks in.
 - ◆ If using cloth masks, wash them at least daily

How to take care of yourself and carry on with your duties as a frontline worker?

- ▶ **Take all preventive measures** that you are talking about in the community such as keeping safe distance, washing hands frequently including before and after home visits. Carry your own soap if necessary
- ▶ If you are visiting or **accompanying a suspected case** to any health facility, make sure to cover both your mouth and nose with folded cloth or mask.
- ▶ If you are conducting community meetings or supporting outreach sessions the **groups should not be larger than 10-12 people.**
- ▶ Maintaining safe distances for those living in crowded areas or the homeless is going to be difficult. Even then you should inform them about preventive measures and support them as required.
- ▶ **Self-monitor** for signs of illness and report to the Medical Officer, immediately if any symptoms develop.
- ▶ **Ensure that you continue to undertake tasks** related to care of pregnant women, newborns and sick children, Post Natal Care, Breastfeeding and Nutritional Counselling, TB and NCD patient follow up while taking preventive measures.
- ▶ Remember older people are at higher risk, so take **special care to visit homes of elderly people.**
- ▶ **Continue to pay special attention to the marginalized,** as is your routine practice.
- ▶ Also as the people's trusted health worker, try to **reassure them** that while those with symptoms and high risk need close attention, for others, prevention measures will decrease the risk of getting the disease.

Myths vs. reality for COVID-19

As COVID-19 is a new condition, there are many common myths.


Myths	Facts
1. The corona virus can be transmitted through mosquitoes.	The corona virus CANNOT be transmitted through mosquito bites.
2. Everyone should wear a mask.	People who should wear a mask are: <ul style="list-style-type: none"> ▶ Those having symptom of fever, cough etc. ▶ Healthcare workers in facilities caring for ill people ▶ The assigned care taker of a home quarantined person ▶ Even those wearing masks should wash their hands frequently
3. Only people with symptoms of COVID-19 can spread the disease.	Even people with the COVID-19 infection but no symptoms can spread the disease.
4. Eating garlic and drinking alcohol can prevent COVID 19	Eating garlic and drinking alcohol DOES NOT prevent COVID 19



Ministry of Health & Family Welfare
Government of India



8. Assistance from State Disaster Response Fund by PIB, GOI



Novel Coronavirus (COVID-19)

Assistance from State Disaster Response Fund (SDRF)

ITEMS	NORMS OF ASSISTANCE
<p>Procurement of essential equipments/labs for response to COVID-19:</p> <ul style="list-style-type: none">• Cost of setting up additional testing laboratories within the Government and the cost of consumables.• Cost of personal protection equipment for healthcare, municipal, police and fire authorities.• Cost of Thermal Scanners, ventilators, air purifiers, and consumables for Government hospitals.	<p>Expenditure is to be incurred from SDRF only (and not from NDRF), as assessed by the State Executive Committee (SEC) to strengthen the surveillance and control measures against COVID-19 virus outbreak.</p> <p>Total expenditure on equipment should not exceed 10% of the annual allocation of the SDRF.</p>

9. Regarding proposal to support govt through CSR by GoUP on 6 April 2020

Regarding Reckitt Benckiser's proposal to support GoUP regarding COVID – 19 pandemic.

At the outset I would like to put on record my sincere appreciation for the kind offer you are giving to the State Governments to support them during the COVID-19 pandemic.

I would like to invite Reckitt Benckiser to join our efforts in the prevention of the spread of Coronavirus in Uttar Pradesh. As part of the Dettol Banega Swasth India Challenge we would invite you to donate 20 lakh soaps to facilitate the beneficiaries of the state towards exercising hand washing which is an important preventive measure and 5 lakh N-95 masks for our front-line workers in the state.

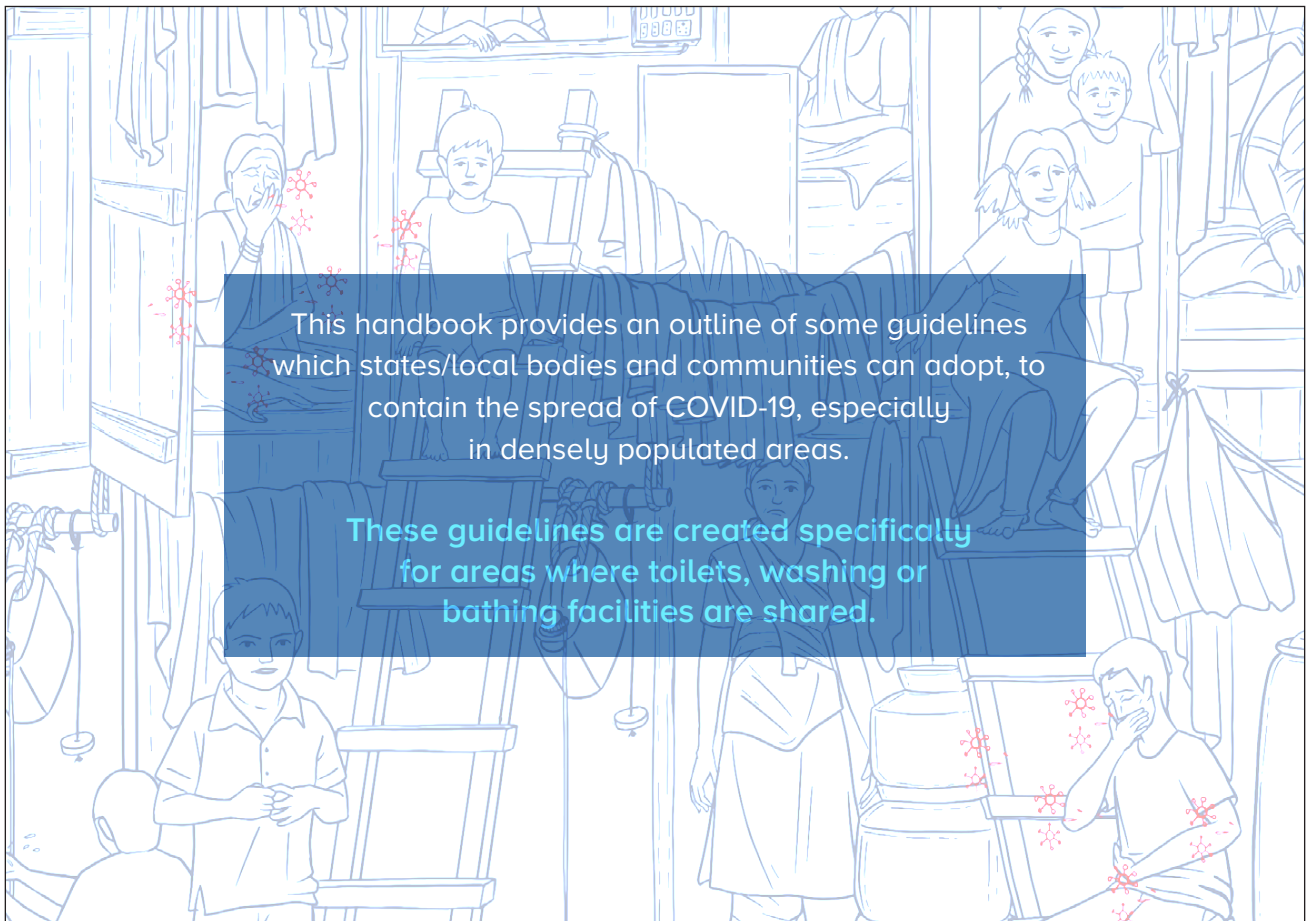
You may kindly inform the districts you would like to distribute and we would coordinate the required support.

10. Guidelines for Hygiene and Sanitation in Densely Populated Areas, During the COVID-19 Pandemic by PIB, GoI

Office of the Principal Scientific
Adviser to the Government
of India_ April, 2020

Guidelines for Hygiene and Sanitation in Densely Populated Areas, During the COVID-19 Pandemic





Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.

The best way to prevent and slow down transmission is to be well informed of Coronavirus disease. The COVID-19 virus spreads primarily through droplets of saliva while coughing or discharge from the nose while sneezing.

Protect yourself and others from infection by washing your hands frequently, not touching your face, coughing or sneezing into a handkerchief and wearing a mask.

1. Preventive Measures

There is currently no cure available for COVID-19. The most effective way of containing the disease in densely populated areas, where common facilities such as bathrooms and toilets are shared, is to **implement measures that can catalyse behaviour change and promote strict adherence to hygiene and sanitation practices.** Simple precautions and interventions implemented in a coordinated manner at the community level, by volunteers and authorities can help control spread of the disease.



It is important that **all patients in the community with ILI (Influenza-like Illness) symptoms** such as fever, chills, dry cough, running nose etc. immediately report to the nearest ASHA/Anganwadi/ frontline worker.

Remember: No one can protect you and your loved ones better than you yourself!

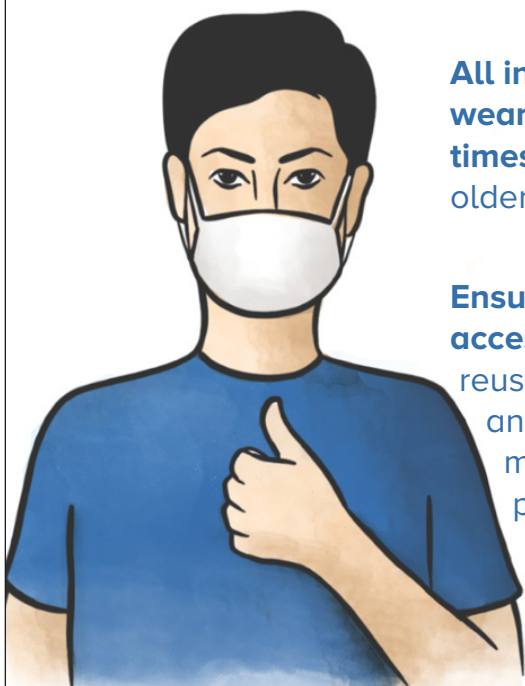


Aarogya Setu App for COVID-19

The Aarogya Setu app (available in 11 languages) will alert you if there are COVID cases near you, help you diagnose symptoms and get you medical support.



2. Face Cover for Everyone in the Community



All individuals must wear face covers at all times including children older than three years.

Ensure everyone has access to 100% cotton reusable face covers and they know how to make and wear them properly.

Remember: people with no symptoms can infect others, so ensure everyone uses a face cover to protect themselves and others



Never touch the front of the face cover with your hands, only touch its sides while wearing and removing it.

COVID-19_Sanitation and Hygiene in Densely Populated Areas_7

Ensure everyone knows how to reuse their face covers by cleaning and sanitising




Ensure that you clean your face cover by washing it with soap in hot water and drying it in the sun (specified in manual link below)



Those living in close proximity with others should distance themselves as far as possible, ventilate the room with a fan and open window. Always use face covers when in close proximity



Scan QR Code for 
Manual on Face Cover
available in 15 languages

Guidelines on Making, Using and Cleaning Face Covers are available here: <https://www.mohfw.gov.in/pdf/Advisory&ManualonuseofHomemadeProtectiveCoverforFace&Mouth.pdf>

COVID-19_Sanitation and Hygiene in Densely Populated Areas_8

3. Sanitation and Hygiene: HANDWASHING

Common use surfaces such as handles, knobs, doors etc. are a major source of disease spread in a community. **It is recommended that foot-operated handwashing stations are installed at all public areas to enable residents to frequently wash their hands.**

Two designs for affordable and self-assembled handwashing stations are proposed. A third design is recommended for installation in all public/community toilets permanently.

These handwashing stations will control the spread of the disease while reducing amount of water used. To eliminate use of soap, chlorine can be added to the water.



Foot operated handwashing stations are globally adopted measures during epidemics for controlling the spread of disease.



COVID-19_Sanitation and Hygiene in Densely Populated Areas_9

Option 1: Installing Foot Operated Handwashing Stations Outside Homes

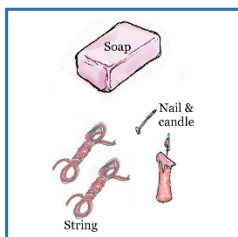


This image shows a foot operated “Tippy Tap” system that can be installed by communities. Material cost for this unit would be approximately Rs 100. This could be installed for every 3 to 4 households.

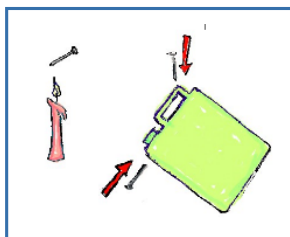
COVID-19_Sanitation and Hygiene in Densely Populated Areas_10

Making a Tippy-Tap *Illustrations and Process from Tippytap.org*

Identify a place such as stairs outside the house, poles supporting roof, etc. Ensure this is near a drain or naali so that the used water can flow into it.



Get a nail, string and a bar of soap



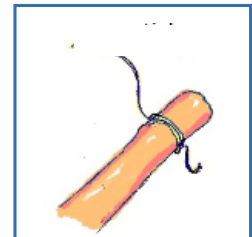
Make 2 holes with warm nail into plastic canister



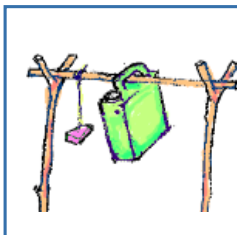
Make 1 hole in bar of soap



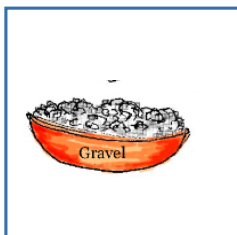
Tie a long string on canister



Tie the other end of the string on foot pedal



Hang the soap and the canister on a hanging bar or available surface



You may place some stones in large flat bowl under the water so it can slowly flow into the drain



Your Tippy Tap handwashing device is ready to use. You can now clean your hands without fear of re-contamination.

COVID-19_Sanitation and Hygiene in Densely Populated Areas_11

Option 2: Installing Foot Operated Handwashing Stations at Community Toilets and Other Areas



Several examples of Foot Operated Handwashing Systems exist as shown. For rapid deployment, we recommend a mechanical version shown above (Courtesy Dr. Dorje Angchuk) Outside Community Toilets

Handwashing Station Components:

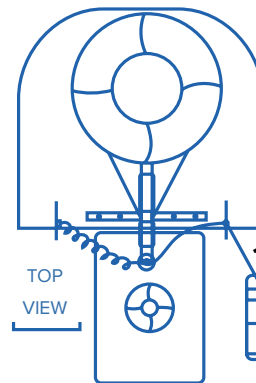
- 1) Container
- 2) Bip cock (Tap cock, single turn operated)
- 3) CP nipple (to extend the neck of tap)
- 4) Metallic spring (To return tap to closed position)
- 5) Metal strips (support for wire rope and spring)
- 6) Metallic wire rope (To extend the wire rope to ground level for foot lever)
- 7) Nuts & Bolts.

COVID-19_Sanitation and Hygiene in Densely Populated Areas_13

How to Create a Community Handwashing Station for Public Areas

Many alternatives to sinks can be created with readily available containers such as 20 litre water bottles that can provide a small outlet, to which a pipe can be attached for the used water to flow into a close by drain.

SIDE VIEW



Tap is controlled by the foot pedal through a brake wire .



Can use any existing container: up to 20 litre system is recommended along with 2 buckets of 10 litre each that are seated on floor as back up for quick replacement.

Foot operated pedal could be made with any piece of metal.



COVID-19_Sanitation and Hygiene in Densely Populated Areas_14

Other Do-It-Yourself Variations on creating Portable Handwashing Stations



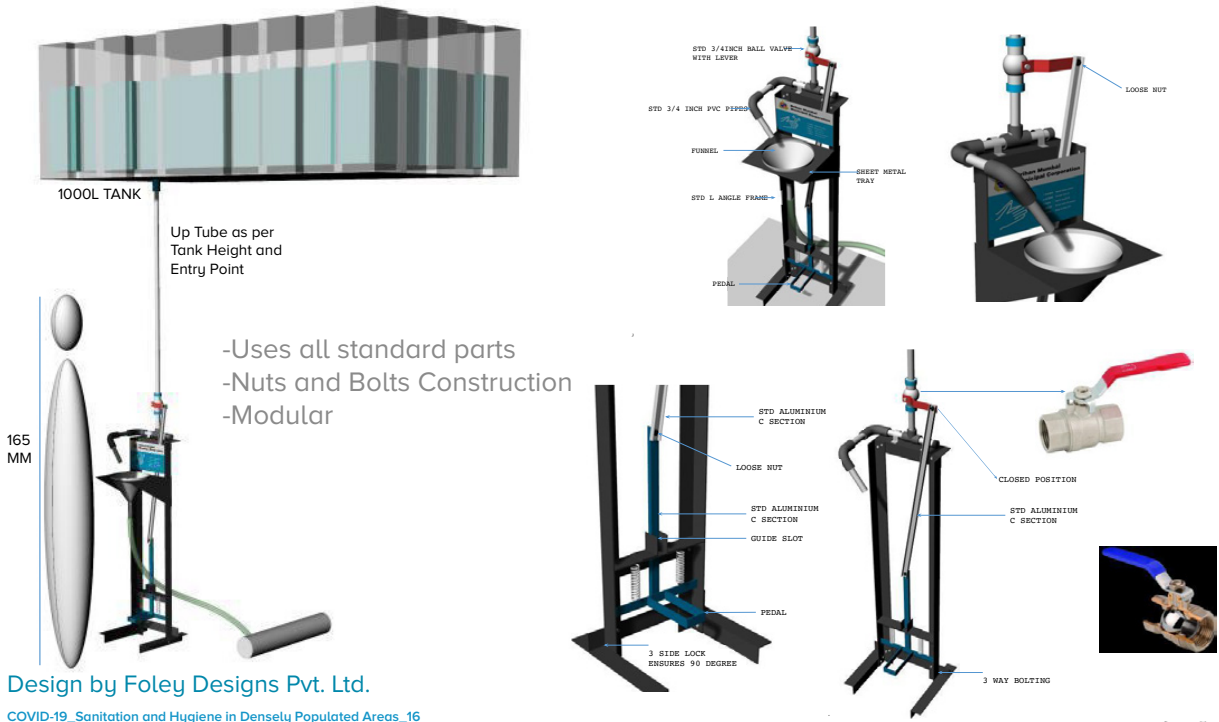
Spring loaded taps that are typically used in water filters can be fitted with a brake wire connected to a pedal



Foot operated Iron bars can be fitted on a tap to create a motion of pushing inside to open the valve

COVID-19_Sanitation and Hygiene in Densely Populated Areas_15

This design for a permanent handwashing station is recommended to be installed at all public/community toilets.



How to Wash Hands



4. Sanitation and Hygiene:

TOILET USE

Individuals must not defecate in the open and instead must use the toilet. The toilet must be kept clean after every use. Poorly used or maintained community toilets can serve as a major source of disease. **To prevent infection caused by people who do not take proper precautions while using toilets, the following best practices must be observed.**



Always wear face cover even in the toilet



Do not touch your nose, eyes or mouth, especially inside the toilet



Wash hands with soap right after toilet use, both after defecating and urinating

COVID-19_Sanitation and Hygiene in Densely Populated Areas_18



Maintain safe distancing from each other near toilets and in other public areas. Try not touching door surfaces including handle, latch or the edge. Put soap water on them if touched.



Never enter a toilet with bare feet. Always wear footwear.



Do not spit or sneeze in the toilet. Always use a face cover in the toilet.



Avoid overcrowding at the wash area.

COVID-19_Sanitation and Hygiene in Densely Populated Areas_19

5. Sanitation and Hygiene: DISINFECTANTS

***Authorities and Volunteers :** Clean streets, toilets and walls with chlorine-containing disinfectant by thorough floor mopping, spraying or wiping three times a day.

Concentration of Chlorine based Disinfectant Solution to be used:

Available Hypochlorite Solution (Bleach, Phenyl)	Required Chlorine Concentration	To Prepare 1000ml	
		Chlorine Solution in ml	Add water in ml
5%	1%	200	800
10%	1%	100	900

- Authorities may consider **spray cleaning of specific areas** as needed.
- Authorities may consider providing a **alternative to soap-based handwashing**, using a chlorine based hand rub solution, dispersed in controlled conditions in public areas. This measure will reduce the amount of water needed.

***Individuals :** Mix 2-3 spoons-full of Phenyl, Chlorine bleach or Lysol available in stores in 5 litre bucket of water and wipe the floor and other surfaces (chair, table, doorknob, switches, etc.) with this water, ensuring that the disinfectant lasts at least 2 minutes at a time on a surface.

*** Distribution of cleaning disinfectants can be arranged by community health workers.**

COVID-19_Sanitation and Hygiene in Densely Populated Areas_20



Additional Measures

- Thoroughly wash fruit and vegetables before use
- Always clean milk bags and other packaged food items and related materials with soap water before use

To ensure the sustainability of proposed interventions, authorities and volunteers must ensure the following:

- Undertake **intensive community outreach and awareness** on importance of washing hands frequently and social distancing
- Co-manage and maintain** handwashing stations with communities
- Ensure water availability** to communities
- Continually **replenish soap and disinfectants**
- Follow all precautions** strictly and rigorously
- It is essential to **cooperate with and respect all frontline workers** and sanitation staff to control the spread of disease

Note: Wastewater surveillance (regular testing of wastewater) can be used as an early warning tool, especially when social distancing measures are lifted.

COVID-19_Sanitation and Hygiene in Densely Populated Areas_21

Office of the Principal Scientific
Adviser to the Government
of India_ April, 2020

Design and Illustrations in this guideline
are available to all Government of India
departments to create custom/vernacular IEC
materials if necessary and can be provided
separately upon request.



11. Poster: Do's and Dont's during Covid19 by MoHFW, GOI



NOVEL CORONAVIRUS (COVID-19)

Protect yourself and others! Follow these Do's and Don'ts

Do's ✓



Practice frequent hand washing. Wash hands with soap and water or use alcohol based hand rub. Wash hands even if they are visibly clean



Cover your nose and mouth with handkerchief/tissue while sneezing and coughing



Throw used tissues into closed bins immediately after use



See a doctor if you feel unwell (fever, difficult breathing and cough). While visiting doctor wear a mask/cloth to cover your mouth and nose



If you have these signs/symptoms please call State helpline number or Ministry of Health & Family Welfare's 24X7 helpline at 011-23978046



Avoid participating in large gatherings



Have a close contact with anyone, if you're experiencing cough and fever



Touch your eyes, nose and mouth



Don'ts ✗

Spit in public

Together we can fight Coronavirus

For further information :

Call at Ministry of Health, Govt. of India's 24X7 control room number

+91-11-2397 8046

Email at ncov2019@gmail.com

12. Poster: Do's and Dont's during Covid19 by MoHFW, GOI



नोवल कोरोनावायरस (COVID-19)

— खुद रहें सुरक्षित, दूसरों को रखें सुरक्षित —

क्या करें क्या करें और क्या ना करें



बार-बार हाथ धोएं। जब आपके हाथ स्पष्ट रूप से गंदे न हों, तब भी अपने हाथों को अल्कोहल - आधारित हैंड वॉश या साबुन और पानी से साफ करें



छींकते और खांसते समय, अपना मुंह व नाक टिश्यू/रूमाल से ढकें



प्रयोग के तुरंत बाद टिश्यू को किसी बंद डिब्बे में फेंक दें



अगर आपको बुखार, खांसी और सांस लेने में कठिनाई है तो डॉक्टर से संपर्क करें। डॉक्टर से मिलने के दौरान अपने मुंह और नाक को ढंकने के लिए मास्क/कपड़े का प्रयोग करें



अगर आप में कोरोना वायरस के लक्षण हैं, तो कृपया राज्य हेल्पलाइन नंबर या स्वास्थ्य मंत्रालय की 24X7 हेल्पलाइन नंबर 011-23978046 पर कॉल करें



भीड़-भाड़ वाली जगहों पर जाने से बचें



यदि आपको खांसी और बुखार का अनुभव हो रहा हो, तो किसी के साथ संपर्क में ना आएं



अपनी आंख, नाक या मुंह को ना छूयें



सार्वजनिक स्थानों पर ना थूकें

हम सब साथ मिलकर कोरोनावायरस से लड़ सकते हैं

अधिक जानकारी के लिए

स्वास्थ्य एवं परिवार कल्याण मंत्रालय भारत सरकार के 24X7 हेल्पलाइन नं. **+91-11-2397 8046** पर कॉल करें या ई-मेल करें **ncov2019@gmail.com**

13. Poster: Social distancing by MoHFW, GOI



Ministry of Health and Family Welfare
Government of India



NOVEL CORONAVIRUS
(COVID-19)



Help us to
help you

There is enough of everything, everyday for everyone
Don't Panic | Don't Rush | Don't Overstock



-  Maintain at least 1 metre distance in market places, medical stores, hospitals, etc.
-  Have patience and keep calm while shopping for essential goods/medical supplies
-  Avoid frequent trips to the market to buy groceries/medical supplies
-  Avoid shaking hands and hugging as a matter of greeting
-  Avoid non-essential social gatherings at home
-  Don't allow visitors at home or visit someone else's home

Observe social distancing at all times
If you have symptoms like cough, fever or difficulty in breathing, avoid any kind of exposure and immediately call the helpline numbers

For information related to COVID-19
Call Ministry of Health and Family Welfare, Government of India's 24x7 Control Room Number 1075 (Toll Free) | 011-23978046 , Email at ncov2019@gov.in , ncov2019@gmail.com

Together we will fight COVID-19

mohfw.gov.in  [@MoHFWIndia](https://www.facebook.com/MoHFWIndia)  [@MoHFW_INDIA](https://twitter.com/MoHFW_INDIA)  [mohfwindia](https://www.youtube.com/mohfwindia)

davp 17102/13/0032/1920

14. Poster: Social distancing by MoHFW, GOI



स्वास्थ्य एवं परिवार कल्याण मंत्रालय
भारत सरकार

नोवल कोरोनावायरस (COVID-19)



Help us to
help you

रोज़मर्रा की सभी वस्तुएं हर किसी के लिये हमेशा उपलब्ध हैं घबराएं नहीं | भीड़ न लगाएं | जमाखोरी न करें



-  बाजार, मेडिकल स्टोर, अस्पताल आदि जगहों पर कम से कम 1 मीटर की दूरी बनाए रखें
-  धैर्य रखें और आवश्यक सामान/चिकित्सा संबंधित सामानों की खरीदारी संयम के साथ करें
-  किराने/ चिकित्सा सामग्री खरीदने के लिए बार-बार बाजार न जाएं
-  अभिवादन के लिए हाथ न मिलाएं और न ही गले लगाएं
-  घर पर अनावश्यक लोगों की भीड़ जमा न करें
-  मेहमान नवाज़ी न करें या किसी दूसरे के घर पर न जाएं

एक-दूसरे से उचित दूरी हमेशा बनाए रखें

यदि आप खांसी, बुखार या सांस लेने में कठिनाई जैसे लक्षण महसूस कर रहे हैं, तो खुली जगहों में न जाएं और तुरन्त हेल्पलाइन नंबर पर कॉल करें

COVID-19 संबंधित जानकारी के लिए

राज्य हेल्पलाइन नंबर या स्वास्थ्य एवं परिवार कल्याण मंत्रालय, भारत सरकार के 24x7 हेल्पलाइन नंबरों पर कॉल करें
1075 (देल डी) | OI-23978046, ई-मेल कडें: ncov2019@gov.in, ncov2019@gmail.com

हमें मिलकर COVID-19 से लड़ना है

mohfw.gov.in [@MoHFWIndia](https://www.facebook.com/MoHFWIndia) [@MoHFW_INDIA](https://twitter.com/MoHFW_INDIA) [mohfwindia](https://www.youtube.com/channel/UCmohfwindia)

davp 17102/13/0032/1920

15. Additional advisory for maintaining cleanliness during lockdown period by MoHUA, GoI on 26 March 2020

COVID-19: Additional advisory for maintaining cleanliness during lockdown period

Further to the instructions issued on 21st March 2020 for safe disposal of waste from quarantined households, the following additional actions may be taken by ULBs, especially in light of the nation-wide lockdown currently in force:

1. Special cleaning of public places:

- ULBs may undertake **special cleaning campaign** for all public places (commercial areas, places of worship, popular tourist spots, parks, gardens, and any other public place which normally sees high footfall from citizens, and hence may be difficult to clean thoroughly during normal days) through sweeping, bleaching, disinfecting and complete sanitization during this lockdown period, before they are permitted to be reopened to public.
- This would help ensure that cities are clean and sanitized when the lockdown is lifted and citizens can come out of their homes.

2. Safe disposal of waste from quarantined households:

- For all households where residents are under quarantine, ULBs may provide them with **especially marked, yellow garbage bags** for disposing of their wet and dry wastes.
- Waste from such quarantined households should be treated as **bio-medical waste**.
- Hence, these wastes should be **collected** by ULBs **separately** (preferably in separate collection vehicles) and **transported separately**, without mixing with the regular waste from other households.
- The **vehicles** collecting these quarantined wastes should be **thoroughly disinfected and cleaned daily**.
- Waste from quarantined households should be disposed off **only through incineration**.
- In case incineration facilities are not available, **as a last resort**, these waste may be buried in a deep pit in the ground, so that they cannot contaminate any other surface

3. Safe disposal of masks and other related waste from non-quarantined households

- Other wastes used for protection like mask or gloves etc. from non-quarantined households should be treated as **domestic hazardous waste, wrapped in separate wrapper**, collected and transported **separately without mixing** with normal household waste.

4. Welfare and protection of Sanitary workers engaged in collection and transportation of COVID-19 waste:

- All sanitary staff involved in collecting and transporting the above hazardous wastes should be compulsorily provided with **personal protective kits**.
- Fresh protective kits should be provided daily to staff engaged in collection of waste from quarantined households.

- Before leaving for collection duty, and after returning to their duty station, every sanitary staff shall be subjected to **thermal checking**, and **mandatory handwashing with soap**.
- In case any staff should be feeling any physical discomfort, he / she should be sent for **medical examination** and subsequent treatment as may be required.
- Each staff should deposit their used masks / gloves / protective gear in a designated, cordoned-off area, and such **used protective gear** is to be treated as **hazardous bio-medical waste**, to be disposed off through incineration.
- ULBs may refer MoHFW guidelines: <https://www.mohfw.gov.in/pdf/GuidelinesonrationaluseofPersonalProtectiveEquipment.pdf> in this respect.
- In case, because of the ongoing lockdown, sanitary workers (including those employed on contract) are unable to report for duty, their daily / regular wages **should continue to be paid**, and care taken to ensure that their employment / livelihoods are **not affected** because of their absence.

5. Awareness and enforcement:

- All community and frontline workers may be supplied with copies of the MoHFW guidelines for Prevention and Management of COVID-19: (<https://www.mohfw.gov.in/pdf/PreventionandManagementofCOVID19FLWEnglish.pdf>; <https://www.mohfw.gov.in/pdf/PreventionandManagementofCOVID19FLWHindi.pdf>). These may be translated into local language wherever necessary.
- ULBs may **widely disseminate** relevant guidelines and **awareness messages** on COVID-19 for citizens through local print and electronic media
- **Strict penalty and enforcement** may be ensured for any unregulated disposal of COVID-19 waste by any person (s), including waste collectors.
- ULBs may work closely with **District health authorities** to ensure all of the above.

16. Guidelines on disinfection of common public places including offices on 29th March 2020

COVID-19: Guidelines on disinfection of common public places including offices

Scope: This document aims to provide interim guidance about the environmental cleaning /decontamination of common public places including offices in areas reporting COVID-19.

Coronavirus Disease 2019 (COVID -19) is an acute respiratory disease caused by a novel Coronavirus (SARS-CoV-2), transmitted in most instances through respiratory droplets, direct contact with cases and also through contaminated surfaces/objects. Though the virus survives on environmental surfaces for varied period of time, it gets easily inactivated by chemical disinfectants.

In view of the above, the following guidelines are to be followed, especially in areas reporting COVID-19. For ease of implementation the guideline divided these areas into (i) indoor areas, (ii) outdoor areas and (iii) public toilets.

1. Indoor areas including office spaces

Office spaces, including conference rooms should be cleaned every evening after office hours or early in the morning before the rooms are occupied. If contact surface is visibly dirty, it should be cleaned with soap and water prior to disinfection. Prior to cleaning, the worker should wear disposable rubber boots, gloves (heavy duty), and a triple layer mask.

- Start cleaning from cleaner areas and proceed towards dirtier areas.
- All indoor areas such as entrance lobbies, corridors and staircases, escalators, elevators, security guard booths, office rooms, meeting rooms, cafeteria should be mopped with a disinfectant with 1% sodium hypochlorite or phenolic disinfectants. The guidelines for preparing fresh 1% sodium hypochlorite solution is at **Annexure I**
- High contact surfaces such elevator buttons, handrails / handles and call buttons, escalator handrails, public counters, intercom systems, equipment like telephone, printers/scanners, and other office machines should be cleaned twice daily by mopping with a linen/absorbable cloth soaked in 1% sodium hypochlorite. Frequently touched areas like table tops, chair handles, pens, diary files, keyboards, mouse, mouse pad, tea/coffee dispensing machines etc. should specially be cleaned.
- For metallic surfaces like door handles, security locks, keys etc. 70% alcohol can be used to wipe down surfaces where the use of bleach is not suitable.
- Hand sanitizing stations should be installed in office premises (especially at the entry) and near high contact surfaces.
- In a meeting/conference/office room, if someone is coughing, without following respiratory etiquettes or mask, the areas around his/her seat should be vacated and cleaned with 1% sodium hypochlorite.
- Carefully clean the equipment used in cleaning at the end of the cleaning process.
- Remove PPE, discard in a disposable PPE in yellow disposable bag and wash hands with soap and water.

In addition, all employees should consider cleaning the work area in front of them with a disinfecting wipe prior to use and sit one seat further away from others, if possible

2. Outdoor areas

Outdoor areas have less risk than indoor areas due to air currents and exposure to sunlight. These include bus stops, railway platforms, parks, roads, etc. Cleaning and disinfection efforts should be targeted to frequently touched/contaminated surfaces as already detailed above.

3. Public toilets

Sanitary workers must use separate set of cleaning equipment for toilets (mops, nylon scrubber) and separate set for sink and commode). They should always wear disposable protective gloves while cleaning a toilet.

Areas	Agents / Toilet cleaner	Procedure
Toilet pot/ commode	Sodium hypochlorite 1%/ detergent Soap powder / long handle angular brush	<ul style="list-style-type: none"> • Inside of toilet pot/commode: • Scrub with the recommended agents and the long handle angular brush. • Outside: clean with recommended agents; use a scrubber.
Lid/ commode	Nylon scrubber and soap powder/detergent 1% Sodium Hypochlorite	<ul style="list-style-type: none"> • Wet and scrub with soap powder and the nylon scrubber inside and outside. • Wipe with 1% Sodium Hypochlorite
Toilet floor	Soap powder /detergent and scrubbing brush/ nylon broom 1% Sodium Hypochlorite	<ul style="list-style-type: none"> • Scrub floor with soap powder and the scrubbing brush • Wash with water • Use sodium hypochlorite 1% dilution
Sink	Soap powder / detergent and nylon scrubber 1% Sodium Hypochlorite	<ul style="list-style-type: none"> • Scrub with the nylon scrubber. • Wipe with 1% sodium hypochlorite
Showers area / Taps and fittings	Warm water Detergent powder Nylon Scrubber 1% Sodium Hypochlorite/ 70% alcohol	<ul style="list-style-type: none"> • Thoroughly scrub the floors/tiles with warm water and detergent • Wipe over taps and fittings with a damp cloth and detergent. • Care should be taken to clean the underside of taps and fittings. • Wipe with 1% sodium hypochlorite/ 70% alcohol
Soap dispensers	Detergent and water	<ul style="list-style-type: none"> • Should be cleaned daily with detergent and water and dried.

- 70% Alcohol can be used to wipe down surfaces where the use of bleach is not suitable, e.g. metal. (Chloroxylenol (4.5-5.5%)/ Benzalkonium Chloride or any other disinfectants found to be effective against coronavirus may be used as per manufacturer's instructions)
- Always use freshly prepared 1% sodium hypochlorite.

- Do not use disinfectants spray on potentially highly contaminated areas (such as toilet bowl or surrounding surfaces) as it may create splashes which can further spread the virus.
 - To prevent cross contamination, discard cleaning material made of cloth (mop and wiping cloth) in appropriate bags after cleaning and disinfecting. Wear new pair of gloves and fasten the bag.
 - Disinfect all cleaning equipment after use and before using in other area
 - Disinfect buckets by soaking in bleach solution or rinse in hot water
4. **Personal Protective Equipment (PPE):** Wear appropriate PPE which would include the following while carrying out cleaning and disinfection work.
- Wear disposable rubber boots, gloves (heavy duty), and a triple layer mask
 - Gloves should be removed and discarded damaged, and a new pair worn.
 - All disposable PPE should be removed and discarded after cleaning activities are completed.
 - Hands should be washed with soap and water immediately after each piece of PPE is removed, following completion of cleaning. (Refer to **Annexure II: Steps of Hand Hygiene**)

Masks are effective if worn according to instructions and properly fitted. Masks should be discarded and changed if they become physically damaged or soaked. (**Annexure-III: Guidelines for use of mask**)

Guidelines for Preparation of 1% sodium hypochlorite solution

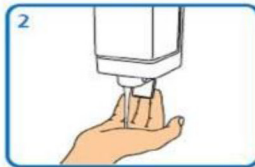
Product	Available chlorine	1percent
Sodium hypochlorite – liquid bleach	3.5%	1 part bleach to 2.5 parts water
Sodium hypochlorite – liquid	5%	1 part bleach to 4 parts water
NaDCC (sodium dichloro-isocyanurate) powder	60%	17 grams to 1 litre water
NaDCC (1.5 g/ tablet) – tablets	60%	11 tablets to 1 litre water
Chloramine – powder	25%	80 g to 1 litre water
Bleaching powder	70%	7g g to 1 litre water
Any other	As per manufacturer's Instructions	

Steps of Hand Hygiene

Hand-washing technique with soap and water



Wet hands with water



Apply enough soap to cover all hand surfaces



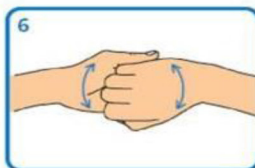
Rub hands palm to palm



Rub back of each hand with palm of other hand with fingers interlaced



Rub palm to palm with fingers interlaced



Rub with back of fingers to opposing palms with fingers interlocked



Rub each thumb clasped in opposite hand using a rotational movement



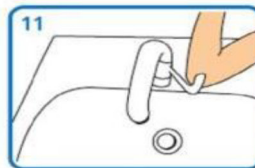
Rub tips of fingers in opposite palm in a circular motion



Rub each wrist with opposite hand



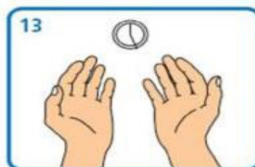
Rinse hands with water



Use elbow to turn off tap



Dry thoroughly with a single-use towel



Hand washing should take 15–30 seconds

Guidelines for use of mask

The correct procedure of wearing triple layer surgical mask

1. Perform hand hygiene
2. Unfold the pleats; make sure that they are facing down.
3. Place over nose, mouth and chin.
4. Fit flexible nose piece over nose bridge.
5. Secure with tie strings (upper string to be tied on top of head above the ears –lower string at the back of the neck.)
6. Ensure there are no gaps on either side of the mask, adjust to fit.
7. Do not let the mask hanging from the neck.
8. Change the mask after six hours or as soon as they become wet.
9. Disposable masks are never to be reused and should be disposed off.
10. While removing the mask great care must be taken not to touch the potentially infected outer surface of the mask
11. To remove mask first untie the string below and then the string above and handle the mask using the upper strings.
12. Disposal of used masks: Used mask should be considered as potentially infected medical waste. Discard the mask in a closed bin immediately after use.



Part B:

PRACTITIONERS' RESOURCES

1. Guidelines for Desludging operators by IIHS, Bengaluru

How does the novel coronavirus get transmitted?

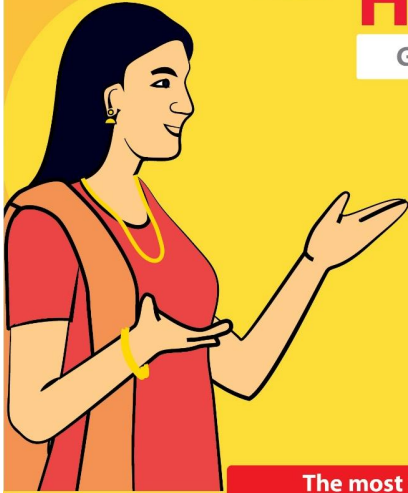
The virus mainly spreads from person to person through respiratory droplet transmission in close contact.

The virus can survive on surfaces and can also be transmitted as a contact infection by handling materials or surfaces contaminated with the sputum or respiratory droplet of an infected person.



How to stay safe?

General preventive and mitigation measures



The most effective preventive measures in the community include:

- Wash your hands regularly with an alcohol-based hand rub or with soap and clean water. If your hands are visibly dirty use only soap and water.
- Avoid touching your eyes, nose, and mouth.
- Cover your mouth and nose when coughing or sneezing. Cough/ sneeze into a tissue or flexed elbow and immediately dispose of the tissue.
- Wear a medical mask if you have respiratory symptoms and wash hands using soap after disposing of the mask.
- Maintain physical distance (a minimum of 1 metre) from persons with respiratory symptoms.
- Avoid unnecessary travel and stay away from large groups of people.
- Stay at home if you feel unwell.
- Use headphones/ speaker phones when using mobile phone to avoid touching face.



Recommended Good Practices for De-sludging Operators



- Obtain ID card or permission letter from the ULB and always carry them for movement during lockdown period.
- Work cloths must be worn before starting the day's work. Always use mask, non disposable gloves, footwear and appropriate clothing (like long sleeved shirt, long trousers) before starting desludging operations.
- Ensure hand sanitizers and soap is available in the desludging vehicle.
- While desludging, maintain physical distance (1m) with members of households.
- Use hand sanitizers frequently.



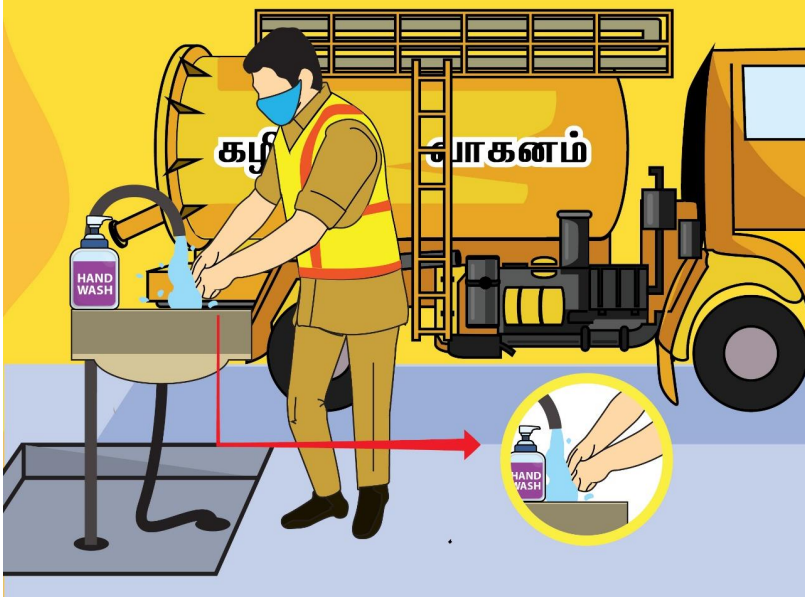
Recommended Good Practices for De-sludging Operators



Never enter any septic tank.



Recommended Good Practices for De-sludging Operators



After the sludge is emptied from septic tank, clean the pipe using disinfectant and place it back in the truck. Wash hands and any surface which came in contact with fecal sludge using soap.



Recommended Good Practices for De-sludging Operators



- After reaching the FSTP reconnect the pipe, open the release valve and transfer the fecal sludge to the receiving facility.
- Avoid spillage of fecal sludge throughout the operations. In case of spillage sprinkle lime powder over the spillage and clean the surface using disinfectant.
- Wash hands after performing any task with possible exposure to fecal sludge.



Recommended Good Practices for De-sludging Operators



- Working cloths and reusable PPE must be cleaned thoroughly using water added with disinfectant.
- Wear personal cloth before leaving from work.

Choice of Disinfectant

- Hand wash- preferred option:
 - a. Soap and water.
 - b. Alcohol-based hand rub (if hands are not visibly dirty).
- Sodium hypochlorite at 0.5% (equivalent 5000ppm) for disinfection of surfaces and reusable gloves.
- Mildly alkaline all-purpose detergent for cleaning surfaces .



Recommended Good Practices for De-sludging Operators



Choice of PPE

- Cloth mask.
- Gloves.
- Head band and Wrist band.
- Foot wear covering whole foot/ gum boots.



How to put on and remove ppe?

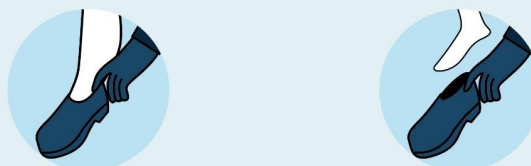
1. Cover nose and mouth with mask and secure ties/elastic band behind the head and neck. While removing: Front of mask is contaminated — DO NOT TOUCH! Grasp bottom ties or elastics and remove without touching the front.



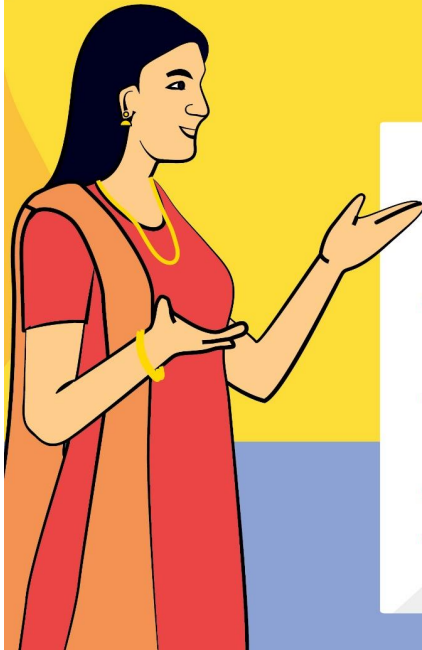
2. Wear gloves. Outside of gloves are contaminated, used gloved hand to remove other glove, follow this procedure to remove other glove



3. Wear Boots to cover your legs. Remove Boots with gloved hands.



Hand hygiene should be performed at all five moments.



- Before putting on PPE and after removing it, when changing gloves
- After any desludging or maintenance activity
- After contact with any respiratory secretions
- Before eating
- After using the toilet



2. Guidelines for Desludging operators by IIHS, Bengaluru

नोवल कोरोनावायरस कैसे फैलता है?

यह वायरस मुख्य रूप से जो लोग इस वाइरस (वर्षाणु) से संक्रमित हैं उनकी साँस की बूंदों (खाँसने और छींकने के दौरान निकली) के संपर्क में आने से एक व्यक्ति से दूसरे व्यक्ति में फैलता है।

यह वायरस सतहों पर जीवित रह सकता है और संक्रमित व्यक्ति की खाँसी या छींकों से निकलने वाली छोटी-छोटी बूंदों के माध्यम से संक्रमित पदार्थों या सतहों पर काम करते हुये या उनके संपर्क में आने से भी फैल सकता है।

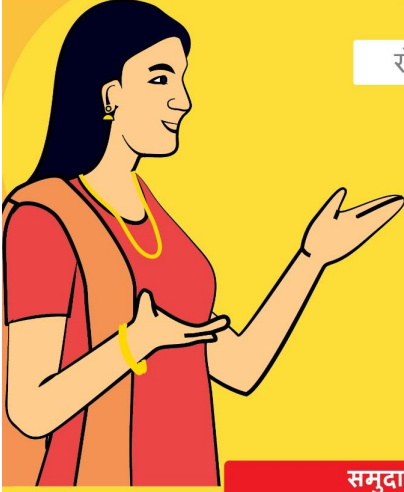


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सुरक्षति कैसे रहें?

रोकथाम और इसे कम करने के सामान्य उपाय



समुदाय में सबसे प्रभावी रोकथाम उपायों में नमिन शामिल हैं:

- अपने हाथों को अल्कोहॉल-आधारित हैंड रब (हाथों पर मलने वाला तरल) या साबुन और साफ पानी के साथ रगड़कर नियमित रूप से धोएं। यदि आपके हाथ गंदे दिखाई दे रहे हैं तो साबुन और पानी का इस्तेमाल करें।
- अपनी आंखों, नाक और मुंह को छूने से बचें।
- खांसते या छींकते समय अपना मुंह और नाक ढक लें। टिशू या कोहनी मोड़कर मुंह के सामने लगाकर खांसें / छींकें और टिशू को तुरंत फेंक दें।
- यदि आपमें सांस संबंधी लक्षण हैं तो मेडिकल मास्क पहनें और मास्क को फेंकने के बाद साबुन से हाथ धोएं।
- सांस संबंधी लक्षणों वाले व्यक्तियों से (कम से कम 1 मीटर) शारीरिक दूरी बनाए रखें।
- बनिा मतलब बाहर जाने से बचें और लोगों के बड़े समूहों से दूर रहें।
- यदि आप अस्वस्थ महसूस करते हैं तो घर पर रहें।
- चेहरा छूने से बचने के लिए मोबाइल फोन का उपयोग करते समय हेडफोन या स्पीकर फोन का उपयोग करें।



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डीसलजगि ऑपरेटरों (डीएसओ/DSO) के लिए अच्छे अभ्यासों के सुझाव



- यूएलबी से आईडी कार्ड या अनुमति पत्र प्राप्त करें और लॉकडाउन अवधि के दौरान आते-जाते समय उन्हें हमेशा साथ रखें।
- काम के दौरान पहने जाने वाले कपड़े दनि का काम शुरू करने से पहले पहनने चाहिए। डीसलजगि ऑपरेशन शुरू करने से पहले हमेशा मास्क, दस्ताने, जूते और उपयुक्त कपड़े (जैसे लंबी आस्तीन वाली शर्ट, लंबी पतलून) का उपयोग करें।
- ध्यान दें कि डीसलजगि गाड़ी /वाहन में हैंड सैनिटाइजर और साबुन हमेशा रहना चाहिए।
- डीसलजगि करते समय, घरों के सदस्यों से (कम से कम 1 मीटर) शारीरिक दूरी बनाए रखें। बार-बार हैंड सैनिटाइजर का इस्तेमाल करें।



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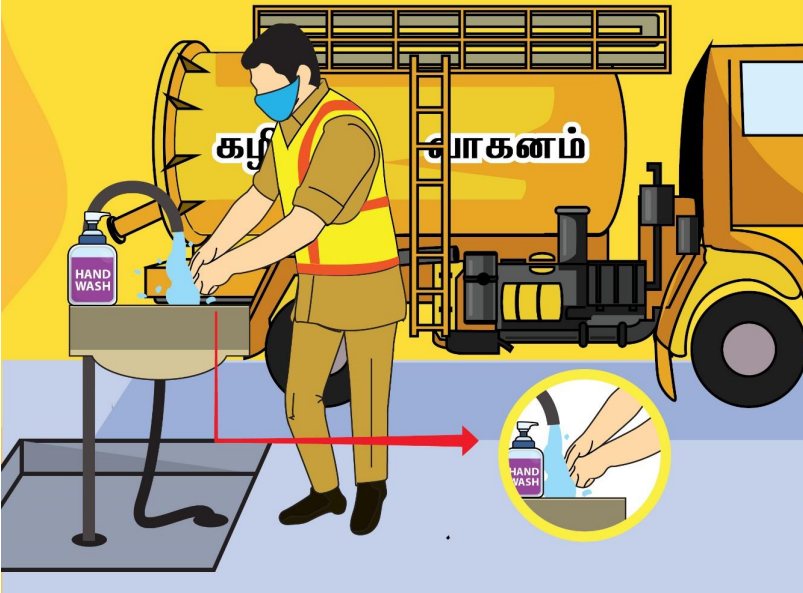
कभी भी किसी सेप्टिक टैंक में प्रवेश न करें।



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सेप्टिक टैंक से कीचड़ को खाली करने के बाद, कीटाणुनाशक का उपयोग करके पाइप को साफ करें और इसे ट्रक में वापस रखें। हाथ और किसी भी सतह जो मल (फेकल) कीचड़ के संपर्क में आई हो उसे साबुन से अच्छी तरह धोएं।



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- एफएसटीपी/FSTP पहुँचने के बाद पाइप को फरि से कनेक्ट करें, रलीज वाल्व खोलें और मल कीचड़ को जमा करने वाले स्थान पर खाली करें।
- पूरी गतविधि के दौरान मल कीचड़ के रिसाव से बचें। कीचड़ छलक जाए तो छलकाव पर चूने का पाउडर छड़िकें और कीटाणुनाशक का उपयोग करके सतह को साफ करें।
- काम के दौरान मल कीचड़ के संपर्क में आने पर साबुन से हाथ धोएं।



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- काम के दौरान इस्तेमाल किए जाने वाले कपड़ों और दोबारा इस्तेमाल किए जाने वाले व्यक्तिगत सुरक्षा उपकरण (पीपीई) को पानी के साथ कीटाणुनाशक मिलाकर अच्छी तरह से साफ करें।
- काम से घर जाने से पहले कपड़े बदलने वाले स्थान पर अपने खुद के कपड़े पहन लें।

कीटाणुनाशक / वसिंक्रामक का चुनाव

- हैंड वाश - बेहतर विकल्प:
क. साबुन और पानी
ख. अल्कोहॉल-आधारित हैंडरब (अगर हाथ गंदे नहीं देखे रहे हैं)
- सतहों और दोबारा इस्तेमाल किए जाने वाले दस्तानों के कीटाणुशोधन के लिए 0.5% (बराबर) सोडियम हाइपोक्लोराइट
- सतहों को साफ करने के लिए सभी कार्यों में इस्तेमाल होने वाले हल्के क्षारीय डिटर्जेंट



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व्यक्तिगत सुरक्षा उपकरण (पीपीई/PPE)

- कपड़े का मास्क
- दस्ताने
- हेड बैंड और रसिट बैंड
- पूरे पैर को ढकने वाले जूते / गम बूट



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व्यक्तिगत सुरक्षा उपकरण (पीपीई/PPE) इस्तेमाल करने का तरीका

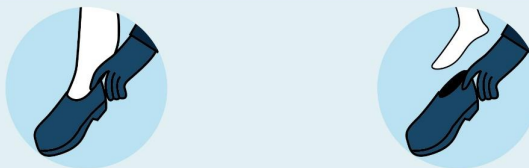
1. नाक और मुँह को मास्क से ढक लें और इलास्टिक बैंड को सरि और गर्दन के पीछे बांध लें। हटाते समय: मास्कके आगे का हिस्सा / रेस्पिरिटर दूषित होता है उसे न छुएँ! इलास्टिक्स या फीते को नीचे से पकड़ें और सामने का हिस्सा छुए बनिा नकाल दें।



2. दस्ताने पहनें और उन्हें कोहनी तक चढ़ा लें। दस्ताने के बाहर का भाग दूषित होता है, दस्ताने को उतारने के लिए दस्ताने पहने हुये दूसरे हाथ का उपयोग करें, दूसरा दस्ताना भी इसी तरीके से उतारें।



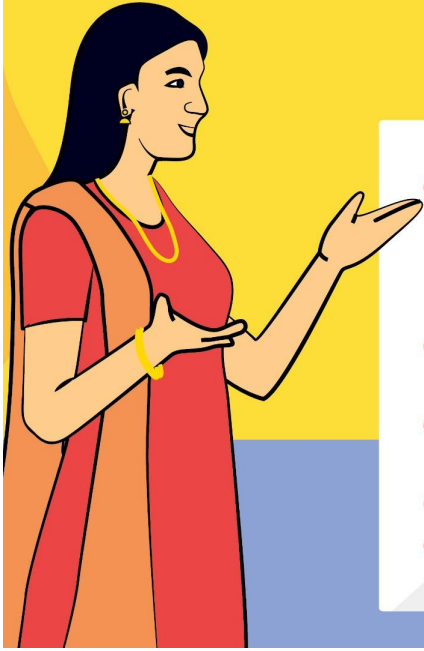
3. अपने पैरों को ढकने के लिए जूते पहनें। जूतों को दस्ताने वाले हाथों से नकालें।



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हाथ की सफाई नमिन् पाँच मौकों पर ज़रूर की जानी चाहिए



- व्यक्तिगत सुरक्षा उपकरण (पीपीई) पहनने से पहले और उसे उतारने के बाद, दस्ताने बदलते समय
- किसी भी शौचालय की सफाई या रखरखाव गतिविधि के बाद
- सांस से निकली किसी भी चीज़ के संपर्क में आने के बाद
- खाने से पहले
- शौचालय का उपयोग करने के बाद



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3. Desludging operators' poster by UMC, Ahmedabad



Hi, I am Sattu and this is my wife - Hema. We work as desludging operators with the private contractor of our city. I know, like us many of you are also providing this service to citizens during this CORONA pandemic. And that's why I would like to share a few safety tips with you....

Disclaimer: These instructions are not SOPs for their regular work but intended to highlight additional safety measures to be taken by sanitation workers

Before leaving home for your work, you must



1. Wear full sleeve and full-length clothes



3. Carry the Emergency pass issued by ULB



5. Gloves, mask, apron (if mask is not available, then use a clean cloth in 2-3 layers to cover your nose and mouth)



2. Cover wounds with water-proof band-aid



4. Carry water and soap to wash hands



6. Carry extra set of clothes

When you reach the workplace, you must



1 Wash hands with soap



2 Wear PPEs as per recommended steps (if damaged, ask officer to replace)



3 Pick cleaning equipment and vehicle only after wearing PPE



4 Carry water in the vehicle, soap/ alcohol-based sanitizer



5 Sit at opposite corners of the seats to maintain distance



6 Avoid touching your eyes, nose, and mouth and mask while wearing it

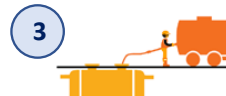
When you start your work, follow these steps...



1 Maintain distance while interacting with people



2 Barricade the desludging area



3 Hold desludging pipe with gloved hands



4 After the sludge is emptied, clean the pipe and barricades



5 Sprinkle lime powder if there is any spillage of sludge



6 Wash hands after performing any task with possible exposure to fecal sludge



7 Wash the vehicle and other equipments used during desludging using disinfectant

When we return to your work base (transfer station, ward office, office)



Remove safety gears



Wash hands and face



Change clothes



Disinfect clothes safety and gears



Hang safety gears in sunny dry space



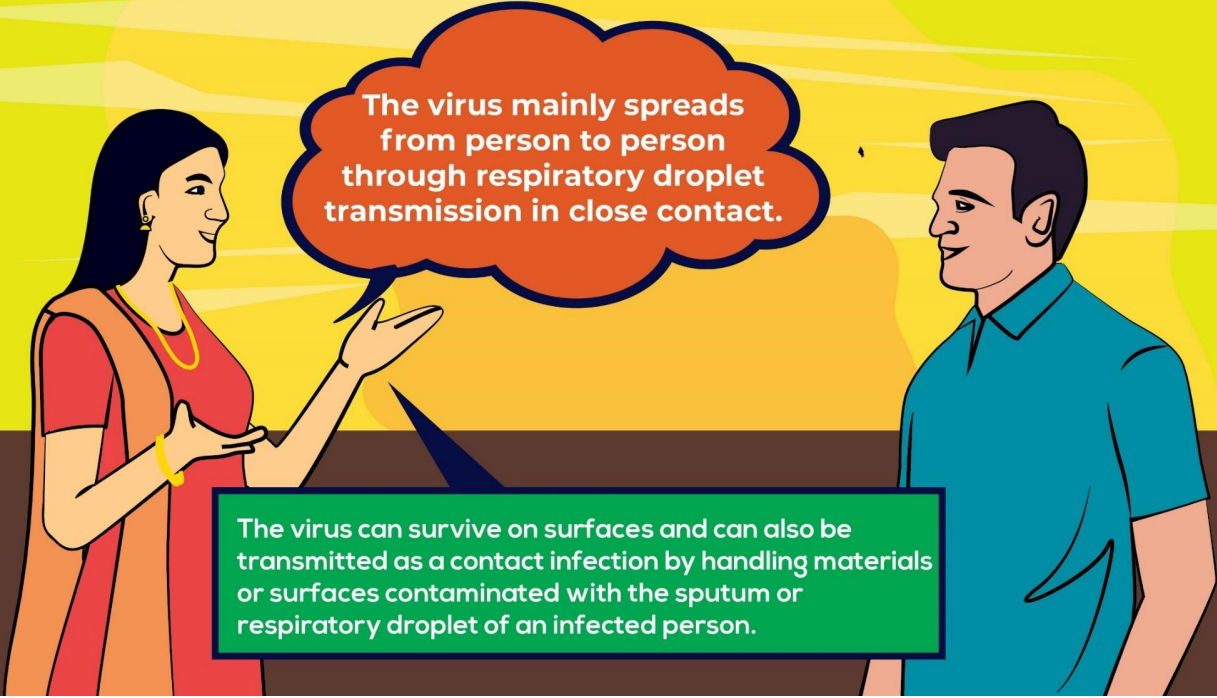
Wear mask and return home

Contact a doctor immediately if you have any cough/fever or running nose

Let's conquer the virus by ensuring our safety

4. Guidelines for FSTP operators by IIHS, Bengaluru

How does the novel coronavirus get transmitted?



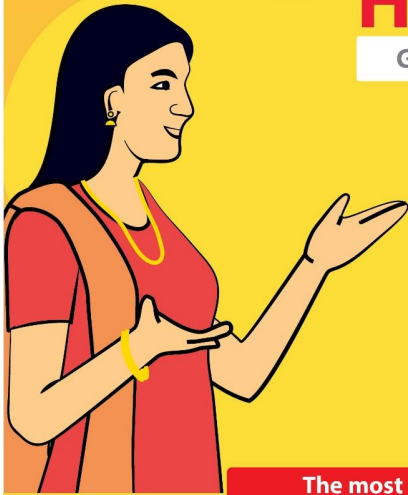
The virus mainly spreads from person to person through respiratory droplet transmission in close contact.

The virus can survive on surfaces and can also be transmitted as a contact infection by handling materials or surfaces contaminated with the sputum or respiratory droplet of an infected person.



How to stay safe?

General preventive and mitigation measures



The most effective preventive measures in the community include:

- Wash your hands regularly with an alcohol-based hand rub or with soap and clean water. If your hands are visibly dirty use only soap and water.
- Avoid touching your eyes, nose, and mouth.
- Cover your mouth and nose when coughing or sneezing. Cough/ sneeze into a tissue or flexed elbow and immediately dispose of the tissue.
- Wear a medical mask if you have respiratory symptoms and wash hands using soap after disposing of the mask.
- Maintain physical distance (a minimum of 1 metre) from persons with respiratory symptoms.
- Avoid unnecessary travel and stay away from large groups of people.
- Stay at home if you feel unwell.
- Use headphones/ speaker phones when using mobile phone to avoid touching face.



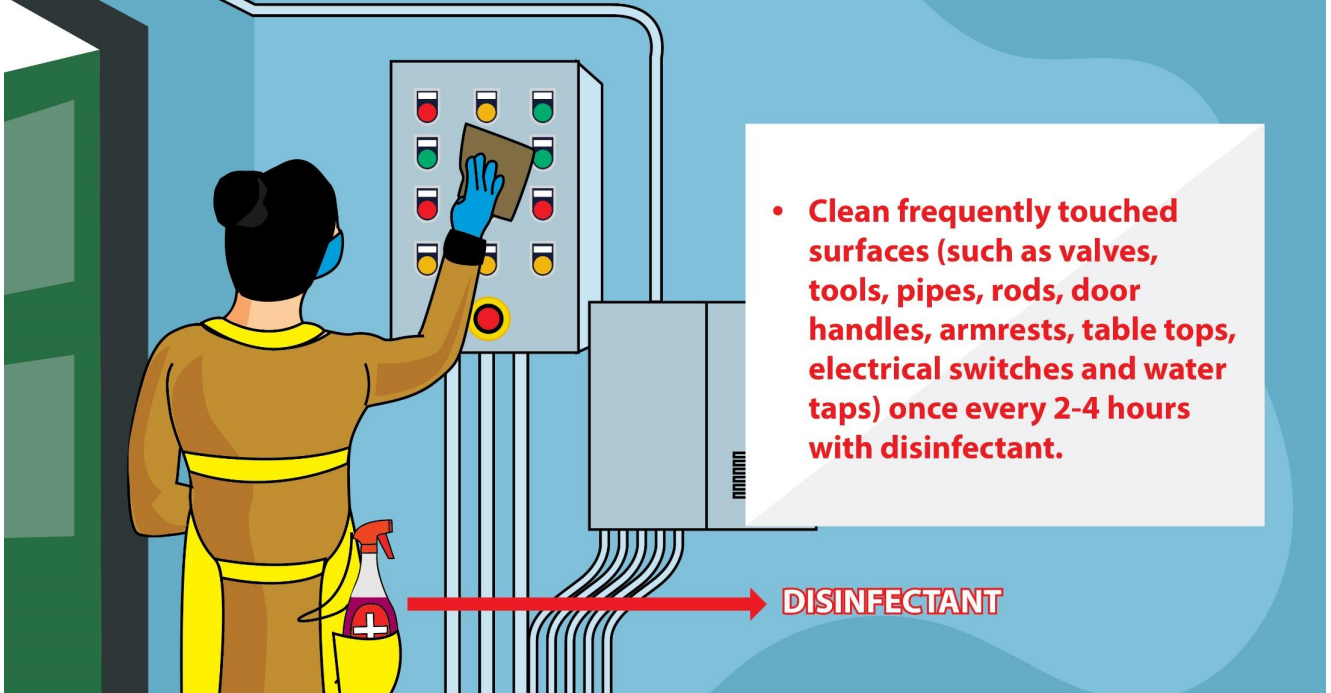
Recommended good practices for FSTP Operators



- Work cloths must be worn at the changing area before starting the day's work. Always use mask, gloves, footwear and appropriate clothing (like long sleeved shirt, long trousers and apron).
- Ensure hand sanitizers and soap is available at the FSTP premises and encourage its usage by all staff.



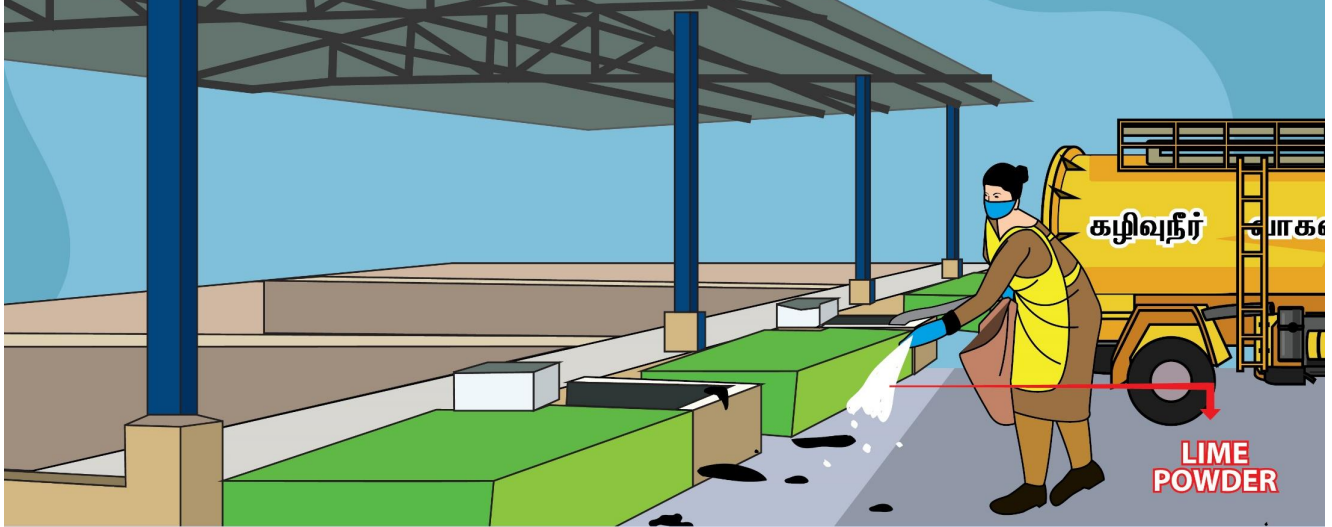
Recommended good practices for FSTP Operators



Recommended good practices for FSTP Operators



Recommended good practices for FSTP Operators



In case of spillage of fecal sludge ensure that lime powder is sprinkled over the spillage and the surface is cleaned using disinfectant



Recommended good practices for FSTP Operators



Recommended good practices for FSTP Operators



Access holes should be suitably covered when no operation and maintenance activity is being performed.



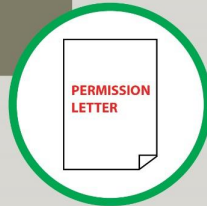
Recommended good practices for FSTP Operators



- Working cloths and reusable PPE must be cleaned thoroughly using water added with disinfectant daily.
- Wear personal cloth at the changing area before leaving home from work.



Recommended vigilant activities for FSTP operators



- Do not allow more than 5 visitors (or as specified from time-to-time by the Government) at a time in the site.
- Obtain ID card or permission letter from the ULB and always carry them for movement during lockdown period.



Recommended vigilant activities for FSTP operators



- Check health condition of staffs regularly and report to the ULB if any COVID symptoms are seen. Ensure that medical assistance is provided for any staff with symptoms of infection.
- Encourage co-workers to take leave if they are found to be ill.



Recommended Good Practices for De-sludging Operators



Choice of PPE

- Cloth mask.
- Gloves.
- Head band and Wrist band.
- Foot wear covering whole foot/ gum boots.



How to put on and remove ppe?

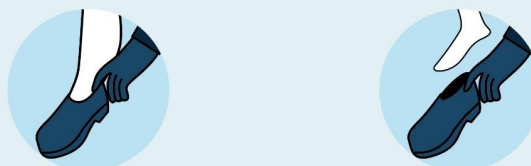
1. Cover nose and mouth with mask and secure ties/elastic band behind the head and neck. While removing: Front of mask is contaminated — DO NOT TOUCH! Grasp bottom ties or elastics and remove without touching the front.



2. Wear gloves. Outside of gloves are contaminated, used gloved hand to remove other glove, follow this procedure to remove other glove



3. Wear Boots to cover your legs. Remove Boots with gloved hands.



Hand hygiene should be performed at all five moments.



- Before putting on PPE and after removing it, when changing gloves
- After any cleaning or maintenance activity
- After contact with any respiratory secretions
- Before eating
- After using the toilet



5. Guidelines for FSTP operators by IIHS, Bengaluru

नोवल कोरोनावायरस कैसे फैलता है?

यह वायरस मुख्य रूप से जो लोग इस वाइरस (वर्षाणु) से संक्रमित हैं उनकी साँस की बूंदों (खाँसने और छींकने के दौरान निकली) के संपर्क में आने से एक व्यक्ति से दूसरे व्यक्ति में फैलता है।

यह वायरस सतहों पर जीवित रह सकता है और संक्रमित व्यक्ति की खाँसी या छींकों से निकलने वाली छोटी-छोटी बूंदों के माध्यम से संक्रमित पदार्थों या सतहों पर काम करते हुये या उनके संपर्क में आने से भी फैल सकता है।

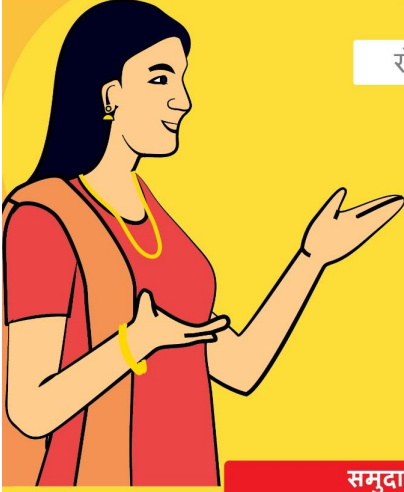


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सुरक्षति कैसे रहें?

रोकथाम और इसे कम करने के सामान्य उपाय



समुदाय में सबसे प्रभावी रोकथाम उपायों में नमिन शामिल हैं:

- अपने हाथों को अल्कोहॉल-आधारित हैंड रब (हाथों पर मलने वाला तरल) या साबुन और साफ पानी के साथ रगड़कर नियमित रूप से धोएं। यदि आपके हाथ गंदे दिखाई दे रहे हैं तो साबुन और पानी का इस्तेमाल करें।
- अपनी आंखों, नाक और मुंह को छूने से बचें।
- खांसते या छींकते समय अपना मुंह और नाक ढक लें। टिशू या कोहनी मोड़कर मुंह के सामने लगाकर खांसें / छींकें और टिशू को तुरंत फेंक दें।
- यदि आपमें साँस संबंधी लक्षण हैं तो मेडिकल मास्क पहनें और मास्क को फेंकने के बाद साबुन से हाथ धोएं।
- साँस संबंधी लक्षणों वाले व्यक्तियों से (कम से कम 1 मीटर) शारीरिक दूरी बनाए रखें।
- बिना मतलब बाहर जाने से बचें और लोगों के बड़े समूहों से दूर रहें।
- यदि आप अस्वस्थ महसूस करते हैं तो घर पर रहें।
- चेहरा छूने से बचने के लिए मोबाइल फोन का उपयोग करते समय हेडफोन या स्पीकर फोन का उपयोग करें।



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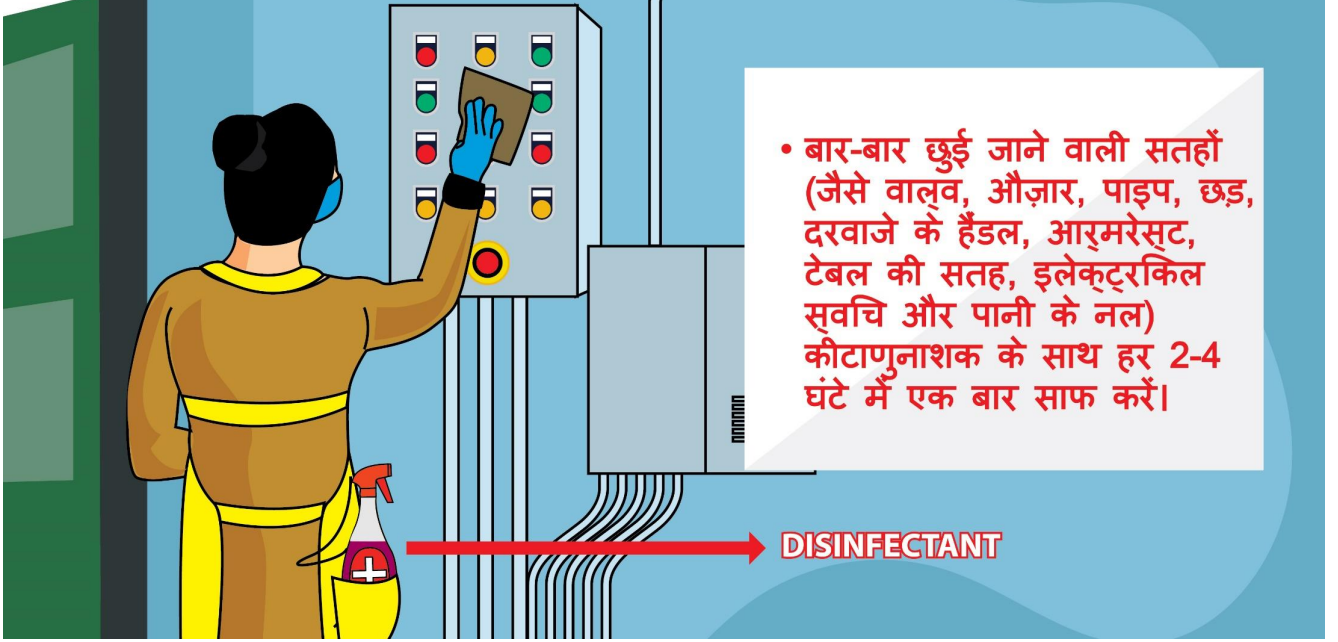
- दनि का काम शुरू करने से पहले, काम के दौरान पहने जाने वाले कपड़े, कपड़े बदलने वाले स्थान में पहनें। सीटी / पीटी हमेशा मास्क, दस्ताने, जूते और उपयुक्त कपड़े (जैसे लंबी आस्तीन वाली शर्ट, लंबी पतलून) का उपयोग करें।
- सुनिश्चित करें कि शौचालय परिसर में साबुन या हैंड सैनिटाइज़र उपलब्ध हैं और शौचालय उपयोगकर्ताओं को इसका उपयोग करने के लिए प्रोत्साहित करें।



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एफएसटीपी FSTP ऑपरेटरों के लिए अच्छे अभ्यासों के सुझाव



- बार-बार छुई जाने वाली सतहों (जैसे वाल्व, औज़ार, पाइप, छड़, दरवाजे के हैंडल, आर्मरेस्ट, टेबल की सतह, इलेक्ट्रिकल स्विच और पानी के नल) कीटाणुनाशक के साथ हर 2-4 घंटे में एक बार साफ करें।



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- मल (फेकल) कीचड़ प्राप्त करते समय, सावधानी के साथ जांच करें। काम के दौरान मल कीचड़ के संपर्क में आने पर हाथ साबुन से धोएं।



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मल कीचड़ के रसिाव या छलकने की स्थितिमें, छलके कीचड़ पर चूने का पाउडर छड़िकें और कीटाणुनाशक का उपयोग करके सतह को साफ करें।



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जब कोई संचालन और रखरखाव गतिविधि नहीं की जा रही हो तो, मैन होल (एक्सेस होल्स) ठीक तरह से ढका जाना चाहिए।



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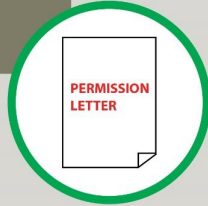
- काम के दौरान इस्तेमाल किए जाने वाले कपड़ों और दोबारा इस्तेमाल किए जाने वाले व्यक्तिगत सुरक्षा उपकरण (पीपीई) को पानी के साथ कीटाणुनाशक मिलाकर अच्छी तरह से साफ करें।
- काम से घर जाने से पहले कपड़े बदलने वाले स्थान पर अपने खुद के कपड़े पहन लें।



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एफएसटीपी FSTP ऑपरेटरों के लिए सतर्क गतिविधियों के लिए सुझाव



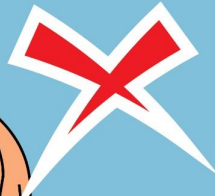
- साइट पर एक समय में 5 (या सरकार द्वारा समय-समय पर निर्दिष्ट) से अधिक व्यक्तियों को अनुमति न दें।
- यूएलबी से आईडी कार्ड या अनुमति पत्र प्राप्त करें और लॉकडाउन अवधि के दौरान आते-जाते समय उन्हें हमेशा साथ रखें।



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एफएसटीपी FSTP ऑपरेटरों के लिए सतर्क गतिविधियों के लिए सुझाव



- कर्मचारियों की स्वास्थ्य स्थिति की नियमित रूप से जाँच करें और यदि किसी में COVID के लक्षण दिखाई दें तो यूएलबीको रिपोर्ट करें। सुनिश्चित करें कि संक्रमण के लक्षणों वाले किसी भी कर्मचारी के लिए चिकित्सा सहायता प्रदान की जाए।
- सहकर्मियों को बीमार होने पर छुट्टी लेने के लिए प्रोत्साहित करें।



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डीसलजगि ऑपरेटरों (डीएसओ/DSO) के लिए अच्छे अभ्यासों के सुझाव



व्यक्तिगत सुरक्षा उपकरण (पीपीई/PPE)

कपड़े का मास्क

दस्ताने

हेड बैंड और रसिट बैंड

पूरे पैर को ढकने वाले जूते / गम बूट



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व्यक्तिगत सुरक्षा उपकरण (पीपीई/PPE) इस्तेमाल करने का तरीका

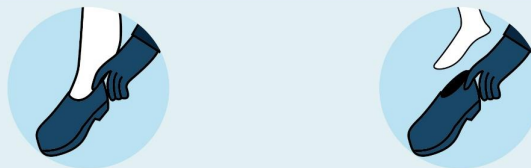
1. नाक और मुँह को मास्क से ढक लें और इलास्टिक बैंड को सरि और गर्दन के पीछे बांध लें। हटाते समय: मास्कके आगे का हिस्सा / रेस्पिरिटर दूषित होता है उसे न छुएँ! इलास्टिक्स या फीते को नीचे से पकड़ें और सामने का हिस्सा छुए बनिा नकाल दें।



2. दस्ताने पहनें और उन्हें कोहनी तक चढ़ा लें। दस्ताने के बाहर का भाग दूषित होता है, दस्ताने को उतारने के लिए दस्ताने पहने हुये दूसरे हाथ का उपयोग करें, दूसरा दस्ताना भी इसी तरीके से उतारें।



3. अपने पैरों को ढकने के लिए जूते पहनें। जूतों को दस्ताने वाले हाथों से नकालें।



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हाथ की सफाई नमिन पाँच मौकों पर ज़रूर की जानी चाहएि



- व्यक्तिगत सुरक्षा उपकरण (पीपीई) पहनने से पहले और उसे उतारने के बाद, दस्ताने बदलते समय
- किसी भी शौचालय की सफाई या रखरखाव गतिविधि के बाद
- सांस से निकली किसी भी चीज़ के संपर्क में आने के बाद
- खाने से पहले
- शौचालय का उपयोग करने के बाद



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6. FSTP operators' poster by UMC, Ahmedabad









Hi, I am Mahesh. I work as a FSTP operator for the municipality.





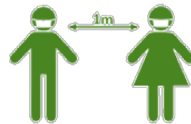
I know that many of you are also providing such services to citizens during this Covid-19 pandemic. And that's why I would like to share some safety tips with you to protect you from the Novel Corona Virus...

Disclaimer: These instructions are no SOPs for their regular work but intended to highlight additional safety measures to be taken by sanitation workers








Before leaving home for your work, you must

 Wear full sleeve and full-length clothes	 Bottles of water and soap to wash hands during break	 Sit on opposite corner of vehicles if travelling together
 Cover wounds with water-proof band-aid	 Carry extra set of clothes	 Carry the emergency pass issued by ULB

When you reach the workplace, you must

 1. Wash hands with soap for 20 seconds at least	 2. Avoid touching unnecessary objects	 3. Wear gloves, mask/cloth, apron, boots	 4. Avoid touching face, nose, mouth, eyes	 5. Maintain safe distance while traveling together to work site
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When you start your work, follow these steps...

 Maintain safe distance with co-workers, don't sit together if possible	 Collect sample with caution when receiving fecal sludge	 Wash hands with soap before and after having lunch Also, after having performing any task with possible exposure to faecal sludge, touching register or cleaning the surrounding
 Do not touch unnecessary objects	 Wash eyes, nose, face in case waste touches	
 Disinfect high touch surfaces – water taps, stair rails, door handles etc. once every 2-4 hours	 Spillage of fecal matter to be sprinkled with lime powder and disinfected	

At the end of the day,

 Remove safety gears	 Wash hands and face	 Change clothes and put all in a bag	 Wear mask/cloth and return to home	 Before meeting anyone in the family, first wash clothes and PPEs with soap and hang them in a sunny dry place	
---	---	---	--	--	---

Contact a doctor immediately if you have any cough/fever or running nose

Let's conquer the virus by ensuring our safety

Safety and Dignity to Sanitation Work | Urban Management Centre with support from BMGF | manvita@umcasia.org

7. Personal Protective Equipments (PPE) for Sanitation Workers by Saniverse

Personal Protective Equipment for Sanitation Workers

When to use PPE?

Appropriate Combinations of PPE for various Sanitation Workers



saniverse
environmental solutions

When to use PPE?

Categories of PPE their details and when to use them?

When to use PPE?



Head Protection

Should be worn in case of physical hazards such as impact due to falling object or collision with fixed objects at workplace. Type of helmet depends on the physical risk present at the workplace.



Ear Protection

Should be worn in case of risk of exposure to high decibels noise at the workplace. They are also recommended where continuous exposure to mist or droplets of fluid / spray is expected.



Face Protection

Should be worn where there is risk of continuous droplets or splashes of fluids, heat from hot solid bodies and electric arcs.



Eye Protection

Should be worn in case of risk of incidental impact of fragments and dusts, gases and droplets or splashes of fluids.



Lung protection: Respirators

Should be worn when working in confined space where there is risk of oxygen deficiency and / or when concentration of toxic substances are at dangerous levels.



Lung protection: Face Masks

Should be worn when there is risk of solid and liquid particles including nanoparticles such as dusts, fumes, mists, fibers, vapors, gases and microorganisms.

When to use PPE?



Hand Protection

Hand protection are classified as mechanical resistant and chemical resistant gloves.

Mechanical resistant are recommended where there is higher risk of abrasion, cut, tear or puncture and incidental contact with hazardous liquids.

Chemical resistant gloves are recommended where intentional contact with the hazardous liquid is expected and there is higher risk of penetration or permeation of chemicals into the glove.



Body Protection

Body protection are used for as chemical & biological hazards, thermal hazards and high visibility. Further intentional and incidental exposure to hazard determines the type of body protection.

These hazards in sanitation are mostly due to incidental exposure to hazardous substance. Intentional exposure is only observed in case of sewer workers engaged in manual cleaning of sewerage systems and septic tanks.



Foot Protection

Foot protection is recommended to protect the workers from physical and chemical hazards at the workplace.

Foot protection helps to avoid injuries arising from contact from falling, rolling or cutting object, penetration from soles and uppers, contact with hazardous substances and slipping and falling on wet surfaces.

Types include – safety footwear, protective footwear and occupational footwear

Material – Leather and similar material, rubber or all polymeric material.

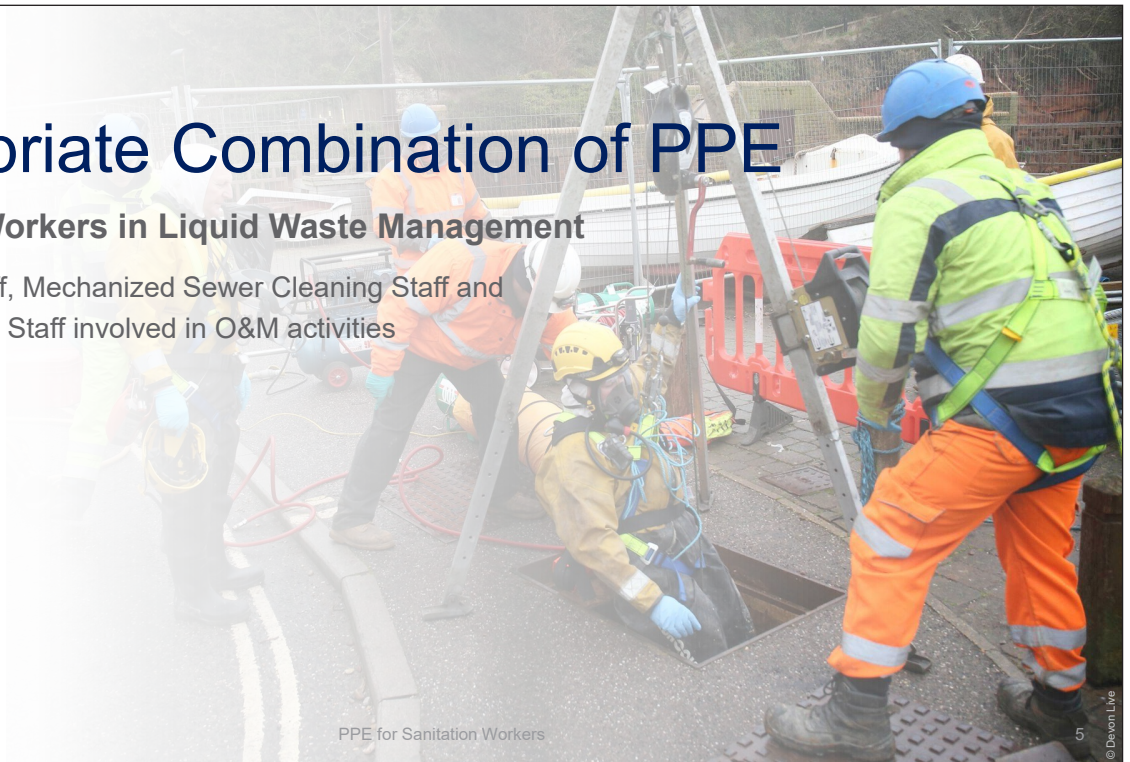
PPE for Sanitation Workers

4

Appropriate Combination of PPE

Sanitation Workers in Liquid Waste Management

Desludging Staff, Mechanized Sewer Cleaning Staff and Treatment Plant Staff involved in O&M activities



PPE for Sanitation Workers

5

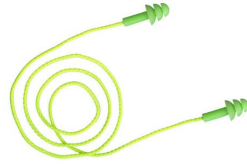
HEAD PROTECTION



Hard Hat

Hard Hat with shell made out of Polypropylene Co-Polymer with headband, harness, sweatband, peak and chinstrap. Recommended for use only when hazard of falling object, working at height or near open chambers.

EAR PROTECTION



Ear Plugs

Corded, flanged shaped ear plugs made out of non irritant and non allergic material. The ear plugs should be washable and reusable. Recommend for use only in case of noise hazard.

FACE PROTECTION



Face Shield

Face shield made out of clear Polycarbonate having size 8.0" x 15.5" and thickness of 1.0 mm. The shield should be compatible with the safety hard hat.

EYE PROTECTION



Safety Goggles

Safety goggles must be light weight made out of clear Polycarbonate material offering high impact resistance and 99.9% UV protection.

PPE for Sanitation Workers

6

LUNG PROTECTION



N 95 Face Mask

N 95 face mask with exhalation valve and straps made out of Thermoplastic Elastomer, Aluminium nose clip, Polyurethane nose foam, Polypropylene filter, Polyester shell and cover web.

HAND PROTECTION



Mechanical Resistant Gloves

Mechanical resistant, nitrile coated gloves having nylon lining, specialized grip such as dotted or sandy and knitted cuffs. Recommended to be worn for jobs which might include incidental contact with liquid hazardous waste or chemical.

HAND PROTECTION



Chemical Resistant Gloves

Chemical resistant, nitrile gloves having flock lined inners, diamond finish grip, straight cuff, minimum thickness of 0.38 mm and length of 330 mm. Recommended to be worn on jobs which includes continuous and intentional contact with liquid hazardous waste or chemical.

PPE for Sanitation Workers

7

BODY PROTECTION



Full Sleeves Shirt

High visibility full sleeves shirt made out of high wicking polyester for comfortable use in hot and humid conditions.

Presence of reflective strips for high visibility in low light conditions is optional.

BODY PROTECTION



Full Length Pants

High visibility full length pants made out of polyurethane coated breathable polyester for comfortable use in hot and humid conditions and easy cleaning.

Presence of reflective strips for high visibility in low light conditions is optional.

FOOT PROTECTION



Protective Footwear

Protective footwear having steel toe with upper body made out of grain leather and polyurethane outsole for protection against physical hazards.

Ankle length shoes when paired with full pants provides complete protection from incidental splashes of hazardous liquids.

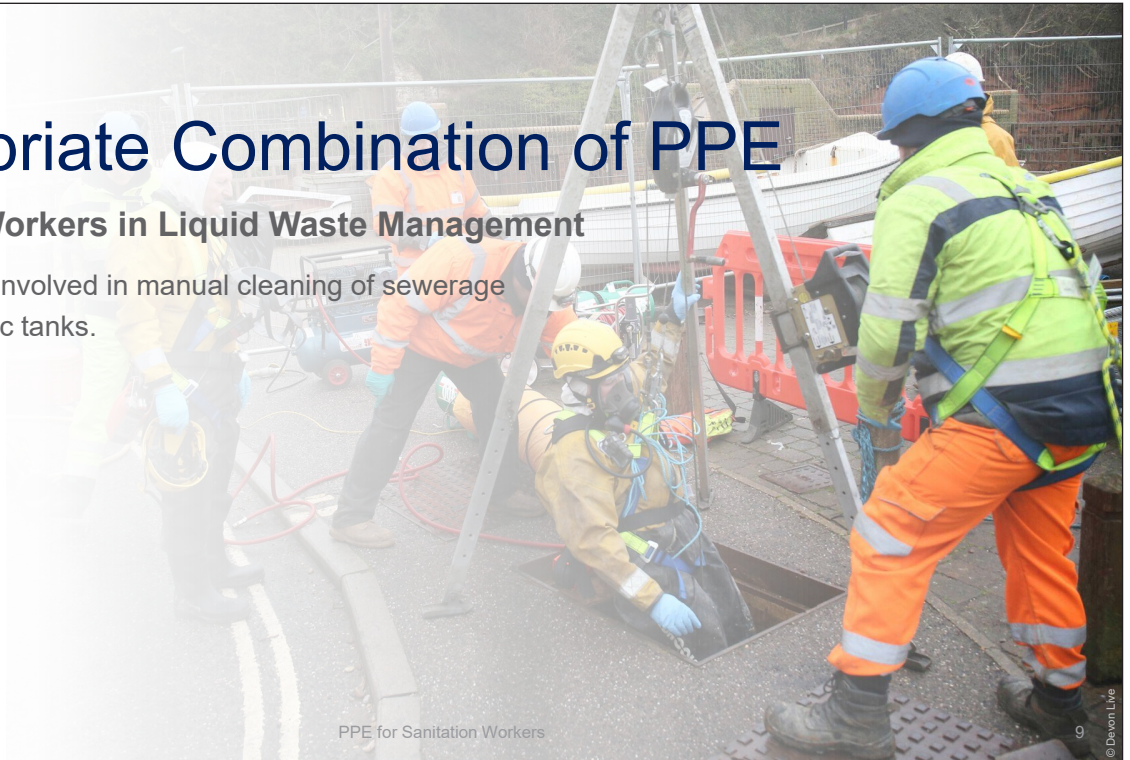
PPE for Sanitation Workers

8

Appropriate Combination of PPE

Sanitation Workers in Liquid Waste Management

Sewer workers involved in manual cleaning of sewerage network or septic tanks.



PPE for Sanitation Workers

© Devon Live

HEAD PROTECTION



Hard Hat

Hard Hat with shell made out of Polypropylene Co-Polymer with headband, harness, sweatband, peak and chinstrap.

Use of hard hat is mandatory when working in confined spaces such as sewerage system or tanks.

EAR PROTECTION



Ear Plugs

Corded, flanged shaped ear plugs made out of non irritant and non allergic material. The ear plugs should be washable and reusable.

Recommend for use only in case of noise hazard.

LUNG PROTECTION



Full Face Respirator

Full face respirators with replaceable filter cartridge. The mask is made out of clear Polycarbonate material and have high impact resistant. The silicone seal around the mask and thermoplastic elastomer, makes it air tight.

LUNG PROTECTION



PAPR

Powered Air Purifying Respirator are full face respirator with battery powered blower.

It is recommended for use in confined spaces which are well ventilated having concentration of the toxic substances at dangerous levels.

PPE for Sanitation Workers

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LUNG PROTECTION



SCBA

Self Contained Breathing Apparatus is a full face respirator which comes with a cylinder which provides necessary oxygen for breathing.

It is recommended for use in confined spaces having deficiency of oxygen such as sewers or underwater.

HAND PROTECTION



Chemical Resistant Gloves

Chemical resistant, nitrile gloves having flock lined inners, diamond finish grip, straight cuff, minimum thickness of 0.38 mm and length of 330 mm.

Recommended to be worn on jobs which includes continuous and intentional contact with liquid hazardous waste or chemical

BODY PROTECTION



Full Sleeves Shirt

High visibility full sleeves shirt made out of high wicking polyester for comfortable use in hot and humid conditions.

Presence of reflective strips for high visibility in low light conditions is optional.

PPE for Sanitation Workers

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BODY PROTECTION



Body Protection

Disposable Coveralls made out of non woven polypropylene with polyethylene barrier film.

The coveralls are breathable and protect the worker from incidental splashes of hazardous liquid waste.

FOOT PROTECTION



Foot Protection

Chest Wader Suits made out of polyester coated with PVC, steel toe rubber shoes molded into the suit to provide complete water tightness.

These are recommended for use where the lower body of the worker will be continuous contact with hazardous liquid waste.

BODY PROTECTION



Body Protection

The sewage proof diving suit are completely water tight from head to toe with integrated gloves and shoes. It comes with a diving helmet and inline air blower kept above the ground. This ensures continuous supply of fresh air for prolonged work under wastewater.

PPE for Sanitation Workers

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Appropriate Combination of PPE

Sanitation Workers in House Keeping

Housekeeping staff involved in cleaning of washrooms



PPE for Sanitation Workers

© Swinburn Building Services

LUNG PROTECTION



Face Mask

Foldable respiratory half mask made of non-woven polypropylene
Wide adjustable elastic straps,
Aluminium nose clip,
Reinforcement nose foam

Recommended to be worn on job while cleaning water closets and using aerosols containing chemicals.

HAND PROTECTION



Chemical Resistant Gloves

Chemical resistant, nitrile gloves having flock lined inners, diamond finish grip, straight cuff, minimum thickness of 0.38 mm and length of 330 mm.

Recommended to be worn on jobs which includes continuous and intentional contact with liquids or cleaning chemical.

BODY PROTECTION



Work Shirt

Short sleeve work shirt made out of polyester and cotton. This material is comfortable to prolonged wearing and helps to wick out moisture.

The work shirt is to be worn on the job as a uniform and is combined with apron or a bib to protect the from liquid splashes.

PPE for Sanitation Workers

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BODY PROTECTION



Cargo Pants

Full length cargo pants made out of polyester and cotton. The pants should have gusseted crotch, wide belt loops and reinforced front and cargo pockets.

The cargo pants shields the legs of the worker from incidental splash of water or chemicals used for cleaning.

BODY PROTECTION



Bib Apron

Unisex multipurpose bib apron made of polycotton fabric, Neck strap adjusted with snap buttons for length, Back width adjustable with strap & buttons.

Recommended to be worn as worker might be exposed to incidental contact / splashes of liquids.

FOOT PROTECTION



Protective Footwear

Protective footwear having steel toe with upper body made out of grain leather and polyurethane outsole for protection against physical hazards.

Ankle length shoes when paired with full pants provides complete protection from incidental splashes of hazardous liquids.

PPE for Sanitation Workers

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Appropriate Combination of PPE

Sanitation Workers in Solid Waste Management

Workers involved in door to door collection, working at transfer station, segregation line and O&M activities at SWM plant



PPE for Sanitation Workers

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HEAD PROTECTION

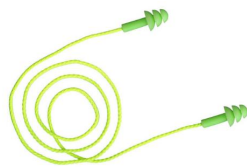


Hard Hat

Hard Hat with shell made out of Polypropylene Co-Polymer with headband, harness, sweatband, peak and chinstrap

Recommend for use in case of physical hazard from falling object or when working at height.

EAR PROTECTION



Ear Plugs

Corded, flanged shaped ear plugs made out of non irritant and non allergic material. The ear plugs should be washable and reusable.

Recommend for use only in case of noise hazard at SWM Plant.

FACE PROTECTION



Face Shield

Face shield made out of clear Polycarbonate having size 8.0" x 15.5" and thickness of 1.0 mm. The shield should be compatible with the safety hard hat.

Recommended when using sprays / aerosols.

LUNG PROTECTION



Face Mask

Foldable respiratory half mask made of non-woven polypropylene Wide adjustable elastic straps, Aluminium nose clip, Reinforcement nose foam

Recommend in case of collection or handling organic waste and protect from hazardous gases.

PPE for Sanitation Workers

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LUNG PROTECTION



N 95 Face Mask

N 95 face mask with exhalation valve and straps made out of Thermoplastic Elastomer, Aluminium nose clip, Polyurethane nose foam, Polypropylene filter, Polyester shell and cover web
Recommended to be worn for jobs where there is collection or processing of dry waste or C&D waste

HAND PROTECTION



Mechanical Resistant Gloves

Mechanical resistant, nitrile coated gloves having nylon lining, specialized grip such as dotted or sandy and knitted cuffs.
Recommended to be worn for jobs which might include incidental contact with dry waste or inert waste

HAND PROTECTION



Chemical Resistant Gloves

Chemical resistant, nitrile gloves having flock lined inners, diamond finish grip, straight cuff, minimum thickness of 0.38 mm and length of 330 mm.
Recommended to be worn on jobs which includes continuous and intentional contact with wet waste or hazardous waste

PPE for Sanitation Workers

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BODY PROTECTION



Bib Apron

Unisex multipurpose bib apron made of polycotton fabric, Neck strap adjusted with snap buttons for length, Back width adjustable with strap & buttons.
Recommended to be worn when continuous and intentional contact with liquid hazardous waste such as organic waste segregation station.

BODY PROTECTION



Full Sleeves Shirt

High visibility full sleeves shirt made out of high wicking polyester for comfortable use in hot and humid conditions.
Presence of reflective strips for high visibility in low light conditions is optional.

BODY PROTECTION



Full Length Pants

High visibility full length pants made out of polyurethane coated breathable polyester for comfortable use in hot and humid conditions and easy cleaning.
Presence of reflective strips for high visibility in low light conditions is optional.

PPE for Sanitation Workers

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FOOT PROTECTION



Protective Footwear

Protective footwear having steel toe with upper body made out of grain leather and polyurethane outsole for protection against physical hazards.

These shoes are recommended for most of the jobs in SWM. Ankle length shoes when paired with full pants provides complete protection from incidental splashes of hazardous waste like wet waste slurry or leachate or processed liquid fuel.

PPE for Sanitation Workers

FOOT PROTECTION



Protective Footwear

Protective footwear made out of poly vinyl chloride and has energy absorption heel. Anti-skid, highly flexible and extra strong for protection against physical hazards.

These shoes are recommended for jobs in SWM where the worker is going to come in continuous contact with liquid. Ankle length shoes should be paired with full pants provides complete protection.

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Appropriate Combination of PPE

Sanitation Workers in Solid Waste Management

Sweepers involved in sweeping and cleaning of streets

PPE for Sanitation Workers

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LUNG PROTECTION



Face Mask

Foldable respiratory half mask made of non-woven polypropylene
Wide adjustable elastic straps,
Aluminium nose clip,
Reinforcement nose foam
Recommend to use in case of sweeping activity to protect from dust particles.

HAND PROTECTION



Mechanical Resistant Gloves

Mechanical resistant, nitrile coated gloves having nylon lining, specialized grip such as dotted or sandy and knitted cuffs.
Recommended to be worn for jobs which include incidental contact with dry waste in street cleaning.

BODY PROTECTION



Full Sleeves Shirt

High visibility full sleeves shirt made out of high wicking polyester for comfortable use in hot and humid conditions.
Presence of reflective strips for high visibility in low light conditions is mandatory.

PPE for Sanitation Workers

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BODY PROTECTION



Cargo Pants

Full length cargo pants made out of polyester and cotton. The pants should have gusseted crotch, wide belt loops and reinforced front and cargo pockets.
Presence of reflective strips is mandatory. The full length pants protects the worker from coming in contact with dusts and harmful substances.

BODY PROTECTION



High Visibility Safety Vests

Safety Vests made of plain or mesh polyester, 1 or 2 inch high gloss white or yellow horizontal & vertical reflective tape.
Recommended to be worn with apparel in street sweeping activity for high visibility in low light conditions.

FOOT PROTECTION



Protective Footwear

Protective footwear having steel toe with upper body made out of grain leather and polyurethane outsole for protection against physical hazards.
Ankle length shoes when paired with full pants provides complete protection from dusts, particulate matters and splashes of liquids.

PPE for Sanitation Workers

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8. D2D Waste collectors' poster by UMC, Ahmedabad







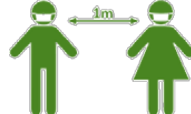
Hi, I am Mahesh. My wife, Leela and I work with a contractor who provides door-to-door waste collection service for the municipality. I know that like us, many of you are also providing these services to citizens during this Covid-19 pandemic. And that's why I would like to share some safety tips with you to protect you from the Novel Corona Virus....

Disclaimer: These instructions are no SOPs for their regular work but intended to highlight additional safety measures to be taken by sanitation workers




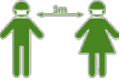





Before leaving home for your work, you must

	1. Wear full sleeve and full-length clothes		3. Carry the Emergency pass issued by ULB		5. Gloves, mask, apron (if mask is not available, then use a clean cloth in 2-3 layers to cover your nose and mouth)
	2. Cover wounds with water-proof band-aid		4. Carry water and soap to wash hands		6. Carry extra set of clothes






When you reach the workplace, you must

	1. Wash hands with soap for 20 seconds at least		2. Avoid touching unnecessary objects		3. Wear gloves, mask/cloth, apron, boots		4. Avoid touching face, nose, mouth, eyes		5. Maintain safe distance while traveling together to work site
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When you start your work, follow these steps...

	1. Blow horn to open the gate		4. Do not touch dustbins and waste with bare hands		6. Ask citizens to dispose used masks and gloves in a separate bag
	2. Keep distance of minimum 4 feet from citizens		5. Do not collect waste from a quarantined household unless you are informed by the municipality		7. Use sheet/pan to pick up littered waste
	3. Ask citizens to throw their waste directly in the vehicle/ your bin				8. Take extra care while picking up waste may carry saliva i.e. ice-cream stick, etc.

When you return to your work base (transfer station/ ward office etc.)

	Remove safety gears		Wash hands and face		Change clothes and put all in a bag		Wear mask/cloth and return to home		Before meeting anyone in the family, first wash clothes and PPEs with soap and hang them in a sunny dry place
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Contact a doctor immediately if you have any cough/fever or running nose

Let's conquer the virus by ensuring our safety

Safety and Dignity to Sanitation Work | Urban Management Centre with support from BMGF | manvita@umcasia.org


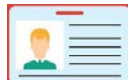




9. Street sweepers' safety poster by UMC, Ahmedabad




Hi, I am Rashmi. I work with a contractor who provides street cleaning service for the municipality. I know that like us, many of you are also providing these services to citizens during this Covid-19 pandemic. And that's why I would like to share some safety tips with you to protect you from the Novel Corona Virus....

Disclaimer: These instructions are no SOPs for their regular work but intended to highlight additional safety measures to be taken by sanitation workers



Before leaving home for your work, you must

 1. Wear full sleeve and full-length clothes	 3. Carry the Emergency pass issued by ULB	 5. Gloves, mask, apron (if mask is not available, then use a clean cloth in 2-3 layers to cover your nose and mouth)
 2. Cover wounds with water-proof band-aid	 4. Carry water and soap to wash hands	 6. Carry extra set of clothes







When you reach the workplace, you must

 1. Wash hands with soap for 20 seconds at least	 2. Avoid touching unnecessary objects, only your PPEs, cart and broom	 3. Wear gloves, mask/cloth, apron, boots	 4. Avoid touching face, nose, mouth, eyes	 5. Maintain safe distance while traveling together to work site
--	---	---	--	---

When you start your work, follow these steps...

 1. Blow horn to open the gate	 4. Do not touch dustbins and waste with bare hands	 6. Wash eyes, nose, face in case waste touches
 2. Keep distance of minimum 4 feet from citizens	 5. Do not collect waste from a quarantined household unless you are informed by the municipality	 7. Use sheet/pan to pick up littered waste
 3. Ask citizens to throw their waste directly in the vehicle/ your bin		 8. Take extra care while picking up waste that may carry saliva i.e. ice-cream stick, etc.

When you return to your work base (transfer station/ ward office etc.)

 Remove safety gears	 Wash hands and face	 Change clothes and put all in a bag	 Wear mask/cloth and return to home	 Before meeting anyone in the family, first wash clothes and PPEs with soap and hang them in a sunny dry place	
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Contact a doctor immediately if you have any cough/fever or running nose

Let's conquer the virus by ensuring our safety

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10. Drain cleaners' poster by UMC, Ahmedabad








Hi, I am Riyaz. My wife- Gul and I work as drain cleaners for our municipality I know that like us, many of you are also providing these services to citizens during this Covid-19 pandemic. And that's why I would like to share some safety tips with you to protect you from the Novel Corona Virus....

Disclaimer: These instructions are not SOPs for regular work but intended to highlight additional safety measures to be taken by sanitation workers

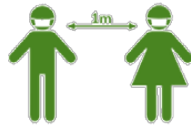
Before leaving home for you work, you must

1. carry our ID card  2. Pack a spare pair of clean clothes in a plastic bag, water and soap  3. Cover wounds with water-proof band-aid 


When you reach the workplace, you must

1. Wash hands with soap for 20 seconds at least 
2. Wear mask, gumboots, apron and gloves (if mask is not available, then use a clean cloth in 2-3 layers to cover your nose and mouth) 
3. Pickup the equipment like shovel, hoe & barricade cone & ribbon only after wearing PPE 
4. Carry bottles of water/ soap to wash our hands thoroughly when they want to take a break 
5. Carry own food for lunch along with drinking water 

When you reach the workplace, you must

1. maintain 1 meter distance with your co-workers or with others 
2. Remove debris and trash from the drain and surrounding area using equipment only. Do not touch anything with bare hands 
3. Clean the area by sweeping, bleaching, disinfecting and complete sanitization 

When you return to your work base (ward office)

- Remove safety gears 
- Wash hands and face 
- Change clothes and put all in a bag 
- Wear mask/cloth and return to home 
- Before meeting anyone in the family, first wash clothes and PPEs with soap and hang them in a sunny dry place  

Contact a doctor immediately if you have any cough/fever or running nose

Let's conquer the virus by ensuring our safety


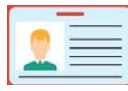




11. Community toilet (CT) caretakers' poster by UMC, Ahmedabad







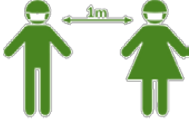
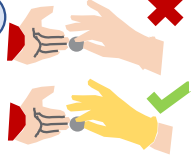



Hi, I am Raghu. My wife, Sushma and I work as caretaker of a community toilet in our ward. I know that like us, many of you are also providing these services to citizens during this Covid-19 pandemic. And that's why I would like to share some safety tips with you to protect you from the Novel Corona Virus....

Disclaimer: These instructions are not SOPs for regular work but intended to highlight additional safety measures to be taken by sanitation workers






Before leaving home for your work, you must

- | | | |
|---|---|---|
|  <p>1. Wear full sleeve and full-length clothes</p> |  <p>3. Carry the Emergency pass issued by ULB</p> |  <p>5. Gloves, mask, apron (if mask is not available, then use a clean cloth in 2-3 layers to cover your nose and mouth)</p> |
|  <p>2. Cover wounds with water-proof band-aid</p> |  <p>4. Carry water and soap to wash hands</p> |  <p>6. Carry extra set of clothes</p> |

When you reach the workplace, you must

- | | | |
|--|--|--|
| <p>1</p>  <p>Wash hands with soap</p> | <p>2</p>  <p>Wear PPEs as per recommendations</p> | <p>3</p>  <p>Draw circles outside the toilet block to make users maintain distance</p> |
| <p>4</p>  <p>Clean the toilet block by wearing PPEs</p> | <p>5</p>  <p>Instruct users to maintain distance of at least 1 m & to wash their hands with soap after using toilet</p> | <p>6</p>  <p>Collect user charges while wearing gloves</p> |
| <p>7</p>  <p>Clean and disinfect frequently touched objects and surfaces.</p> | <p>8</p>  <p>Wash hands with soap before having any food</p> | <p>9</p>  <p>Remove gloves and masks, clean them thoroughly with soap water</p> |

When you finish your work

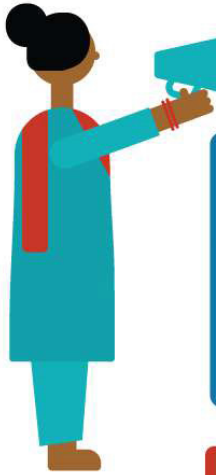
- | | | | | |
|---|---|---|--|--|
|  <p>Remove safety gears</p> |  <p>Wash hands and face</p> |  <p>Change clothes and put all in a bag</p> |  <p>Wear mask/cloth and return to home</p> |  <p>Before meeting anyone in the family, first wash clothes and PPEs with soap and hang them in a sunny dry place</p> |
|---|---|---|--|--|

Contact a doctor immediately if you have any cough/fever or running nose

Let's conquer the virus by ensuring our safety

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12. Handwashing steps Poster by WaterAid



HANDWASHING STEPS



We all can keep ourselves, our family and our community healthy and safe from Coronavirus, **COVID 19** and other diseases by washing hands with soap and water thoroughly following simple steps. This way, every part of our hands are clean.

All of us can follow these simple steps:

1

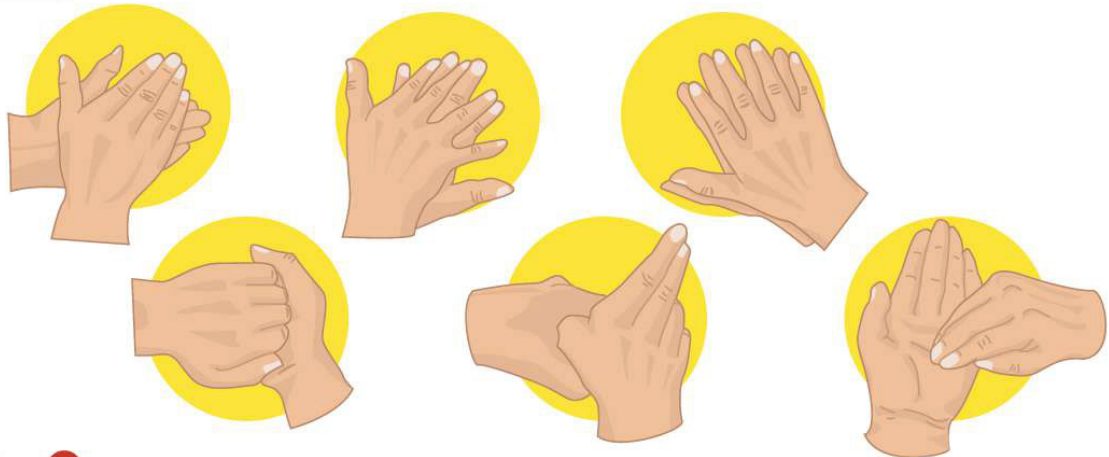
Wet your hands with clean water & apply soap.

2

Lather your hands by rubbing them together with the soap.

3

Lather your palms, the backs of your hands, between your fingers, around your thumbs, and under your nails. **SCRUB YOUR HANDS FOR AT LEAST 20 SECONDS.**



4

Rinse your hands well with clean water
Dry your hands using a clean towel or air dry them.



REMEMBER

Next time you wash your hands - use soap and follow these simple steps!

Protect yourself and your family from Coronavirus and COVID-19, and keep healthy

13. Handwashing steps Poster by WaterAid



हाथ धोने की सही विधि



कोरोना-वायरस व अन्य बीमारियों से हम स्वयं को, अपने परिवार को एवं अपने समुदाय को स्वस्थ और सुरक्षित रख सकते हैं, अगर हम अपने हाथों को साबुन एवं पानी से चरणबद्ध तरीके से धोएं। ऐसा करने से, हमारे हाथ का हर हिस्सा साफ होता है।

आइए जाने इन सरल चरणों को:

1

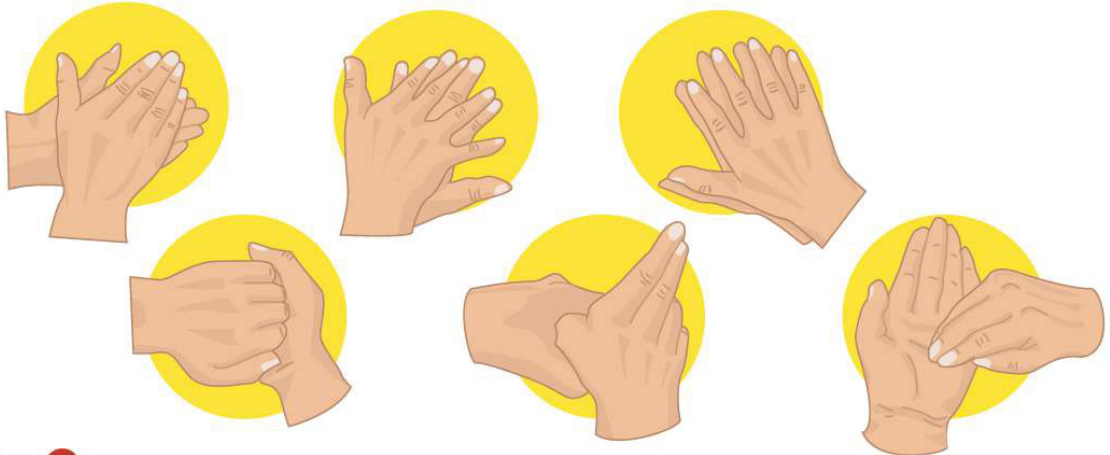
सबसे पहले अपने हाथों को साफ पानी से गीला करें, और हथेलियों में साबुन लगाएं।

2

अब अपने हथेलियों को आपस में मलें, ताकि झाग बन सके।

3

पहले हथेलियों के धारियों के ऊपर, उसके बाद पीछे, उँगलियों के बीच में, अँगूठों के चारों ओर एवं नाखूनों के नीचे व अंदर के हिस्से को, कम से कम 20 सेकेंड तक अच्छे से मलें।



4

इसके बाद साफ पानी से अपने हाथों को अच्छी तरह से धो लें। अंत में, एक साफ तौलिया या हवा का उपयोग करके अपने हाथों को सूखा लें।



याद रखें

अगली बार आप जब भी हाथ धोएँ, साबुन का प्रयोग करें एवं इन सरल तरीके व चरणों का जरूर पालन करें। ऐसा कर, आप अपने और अपने परिवार को कोरोना वायरस से सुरक्षित रख सकते हैं।

14. When to wash hands Poster by WaterAid



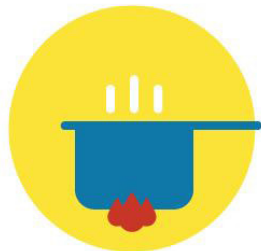
WASH YOUR HANDS



We can protect ourselves, our family and our community from Coronavirus and **COVID 19**, as well as other diseases when we wash our hands thoroughly with soap and water.

We all need to wash our hands with soap and water at these important times:

BEFORE



Preparing Food



Eating



Feeding Children



Using the toilet, washing children's bottom and disposing their stool

Sneezing, coughing, blowing one's nose, and after contact with person with any illness or having symptoms of fever, cough, sneezing



Any task performed outside the home, touching objects and surfaces outside the home



AFTER



REMEMBER

Everyone in the family and community must wash hands well with soap and water at these times: children, adolescents, women, men, elderly, vendors, sanitation workers and cleaners.

15. When to wash hands Poster by WaterAid



सही तरीके से हाथ धोएं

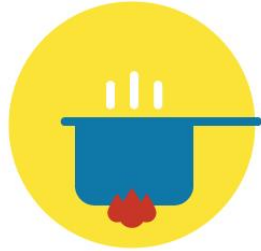


जब हम साबुन एवं पानी से अच्छे से हाथों को धोते हैं, तब हम स्वयं का, अपने परिवार का एवं अपने समुदाय का इस कोरोना वायरस के साथ-साथ कई अन्य बीमारियों से भी बचाव कर सकते हैं।

आइए जानें, कब कब हाथों को साबुन एवं पानी से धोना जरूरी है



पहले



खाना बनाने से पहले



खाना खाने से पहले



बच्चों को खिलाने से पहले



शौचालय का उपयोग करने एवं बच्चों के मल निपटान के बाद

छींकने, खाँसने एवं नाक साफ करने के बाद।
ऐसे व्यक्ति के संपर्क में आने के बाद, जो संक्रमित हो या जिसमें बुखार, खाँसी, या सर्दी के लक्षण हों



घर के बाहर कोई भी कार्य करने के बाद और बाहर की किसी वस्तु या सतह को छूने के बाद



बाद



याद रखें

परिवार और समुदाय के सभी व्यक्ति को इन जरूरी समय (क्षण) पर साबुन और पानी से अच्छी तरह से हाथ धोना चाहिए- चाहे वह बच्चे हों, किशोर हो, महिला हो, पुरुष हो, बुजुर्ग हो, दुकानदार हो, घरेलू कर्मचारी हो या सफाई-कर्मि हो।

16. Guidelines for Sanitation Workers (CT/PT) by IHS, Bengaluru

How does the novel coronavirus get transmitted?

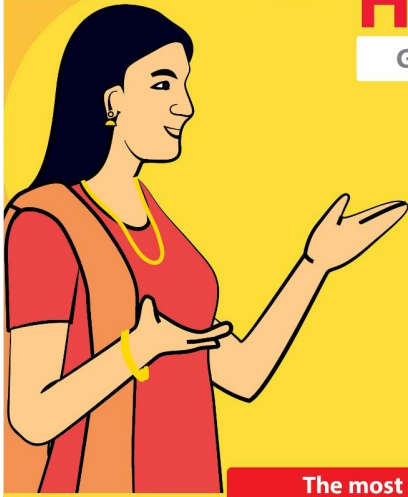
The virus mainly spreads from person to person through respiratory droplet transmission in close contact.

The virus can survive on surfaces and can also be transmitted as a contact infection by handling materials or surfaces contaminated with the sputum or respiratory droplet of an infected person.



How to stay safe?

General preventive and mitigation measures



The most effective preventive measures in the community include:

- Wash your hands regularly with an alcohol-based hand rub or with soap and clean water. If your hands are visibly dirty use only soap and water.
- Avoid touching your eyes, nose, and mouth.
- Cover your mouth and nose when coughing or sneezing. Cough/ sneeze into a tissue or flexed elbow and immediately dispose of the tissue.
- Wear a medical mask if you have respiratory symptoms and wash hands using soap after disposing of the mask.
- Maintain physical distance (a minimum of 1 metre) from persons with respiratory symptoms.
- Avoid unnecessary travel and stay away from large groups of people.
- Stay at home if you feel unwell.
- Use headphones/ speaker phones when using mobile phone to avoid touching face.



Recommended Good Practices at CT/PT for sanitary workers



Work cloths must be worn at the changing area before starting the day's work. Always use mask, gloves, footwear and appropriate clothing (like long sleeved shirt, long trousers and apron) while at the CT/PT premises.



Recommended Good Practices at CT/PT for sanitary workers

நவீன பொது கழிப்பிடம்



GENTS



Ensure soaps or hand sanitizers are available at the toilet premises and encourage its usage by toilet users.

Encourage payment through coins. The coins collected may be used after disinfecting.



LADIES



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Recommended Good Practices at CT/PT for sanitary workers

நவீன பொது கழிப்பிடம்



GENTS

Use physical barriers to ensure at least 1 m distance from the users at the user fee collection counters.

Direct users to maintain physical distance (1 m) among themselves and properly clean the toilet bowls after use.

1M



LADIES



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Recommended Good Practices at CT/PT for sanitary workers

Clean frequently touched surfaces (door handles, armrests, table tops, light switches, water taps) frequently (once every 2-4 hours) with disinfectant.



Recommended Good Practices at CT/PT for sanitary workers

Clean the toilet bowl at least two to three times per day. Depending on the usage clean more often.



Recommended practices for cleaning toilet premises and bowls at CT/ PT



Wear gloves, disinfect door handles, taps, shower, mirrors and soap dispensers in the toilet with a wet cloth and disinfectant.

Put the cleaning cloth in the laundry bag.



Recommended practices for cleaning toilet premises and bowls at CT/ PT



- While cleaning a toilet bowl, wear protective gloves.
- Apply detergent on the toilet bowl, on both sides of the lid and on the seat (for western) and foot rest (for Indian). Flush the toilet.
- Apply the toilet bowl cleaner on the bowl while paying special attention to stains. Clean the bowl with a toilet brush.
- Wash the brush when you flush the toilet.
- Disinfect the gloves and put them in their designated container.



Recommended practices for cleaning toilet premises and bowls at CT/ PT

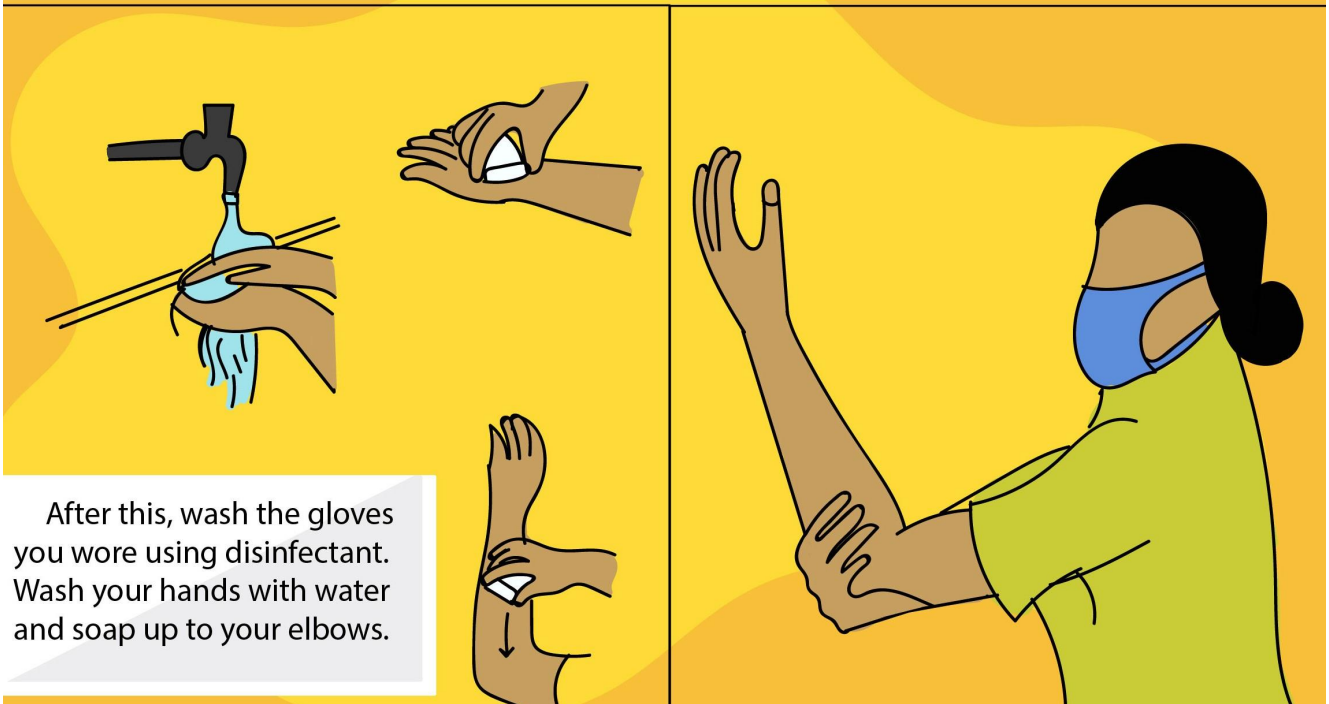
Clean the floor with the floor cleaning equipment and the multi-purpose cleaner.

Wash and clean the equipment and the gloves as well as their container with water and the disinfecting cleaner.

Clean the floor cleaning equipment and the contact surfaces of the cleaner containers with the disinfectant.



Recommended practices for cleaning toilet premises and bowls at CT/ PT



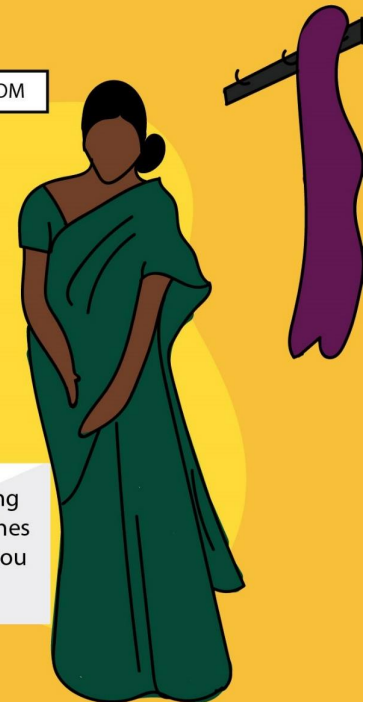
Recommended practices for cleaning toilet premises and bowls at CT/ PT

The work clothes must be washed using disinfectant at the workplace.



CHANGE ROOM

Remove your work clothing and put on your personal clothes at the changing area, before you exit the workplace.



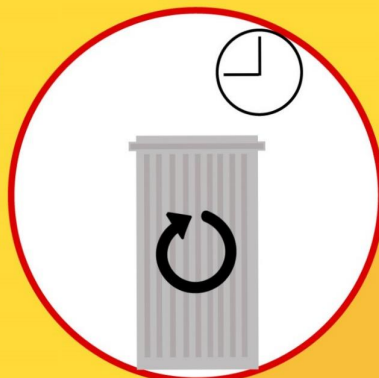
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Recommended practices for cleaning toilet premises and bowls at CT/ PT



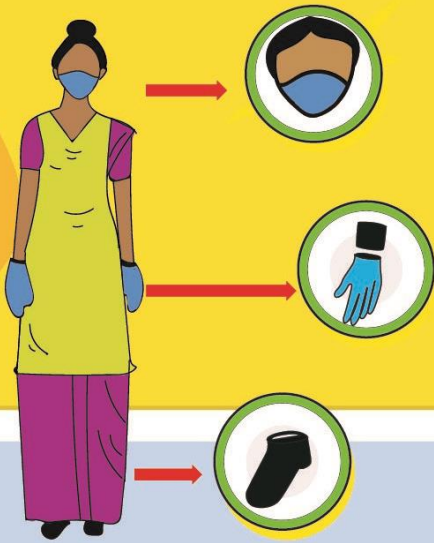
Use leakproof and easily removable bags in waste bins.
Monitor waste bins and do not let them get more than three-quarters full.

Empty waste bins daily.
The collected bin bags must be closed tightly and disposed as per ULB.



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Recommended Good Practices at CT/PT for sanitary workers



Choice of PPE

- Cloth mask.
- Gloves.
- Head band and Wrist band.
- Foot wear covering whole foot/ gum boots.



How to put on and remove ppe?

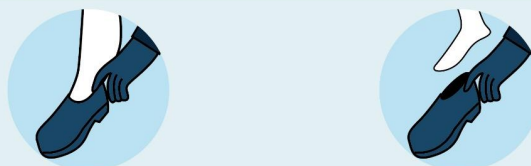
1. Cover nose and mouth with mask and secure ties/elastic band behind the head and neck. While removing: Front of mask is contaminated — DO NOT TOUCH! Grasp bottom ties or elastics and remove without touching the front.



2. Wear gloves. Outside of gloves are contaminated, used gloved hand to remove other glove, follow this procedure to remove other glove



3. Wear Boots to cover your legs. Remove Boots with gloved hands.



Hand hygiene should be performed at all five moments.



- Before putting on PPE and after removing it, when changing gloves
- After any toilet cleaning or maintenance activity.
- After contact with any respiratory secretions
- Before eating
- After using the toilet



17. Guidelines for Sanitation Workers (CT/PT) by IIHS, Bengaluru

नोवल कोरोनावायरस कैसे फैलता है?

यह वायरस मुख्य रूप से जो लोग इस वाइरस (वर्षाणु) से संक्रमित हैं उनकी साँस की बूंदों (खाँसने और छींकने के दौरान निकली) के संपर्क में आने से एक व्यक्ति से दूसरे व्यक्ति में फैलता है।

यह वायरस सतहों पर जीवित रह सकता है और संक्रमित व्यक्ति की खाँसी या छींकों से निकलने वाली छोटी-छोटी बूंदों के माध्यम से संक्रमित पदार्थों या सतहों पर काम करते हुये या उनके संपर्क में आने से भी फैल सकता है।

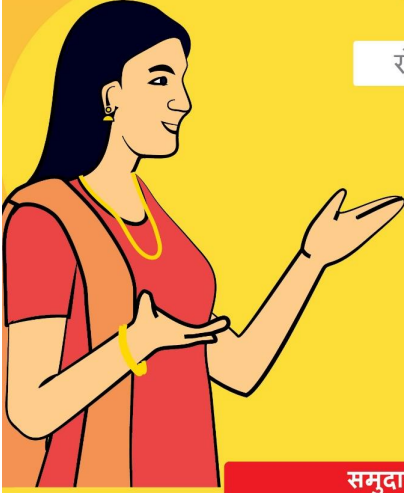


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सुरक्षति कैसे रहें?

रोकथाम और इसे कम करने के सामान्य उपाय



समुदाय में सबसे प्रभावी रोकथाम उपायों में नमिन शामिल हैं:

- अपने हाथों को अल्कोहॉल-आधारित हैंड रब (हाथों पर मलने वाला तरल) या साबुन और साफ पानी के साथ रगड़कर नियमित रूप से धोएं। यदि आपके हाथ गंदे दिखाई दे रहे हैं तो साबुन और पानी का इस्तेमाल करें।
- अपनी आंखों, नाक और मुंह को छूने से बचें।
- खांसते या छींकते समय अपना मुंह और नाक ढक लें। टर्शि या कोहनी मोड़कर मुंह के सामने लगाकर खांसें / छींकें और टर्शि को तुरंत फेंक दें।
- यदि आपमें साँस संबंधी लक्षण हैं तो मेडिकल मास्क पहनें और मास्क को फेंकने के बाद साबुन से हाथ धोएं।
- साँस संबंधी लक्षणों वाले व्यक्तियों से (कम से कम 1 मीटर) शारीरिक दूरी बनाए रखें।
- बनिा मतलब बाहर जाने से बचें और लोगों के बड़े समूहों से दूर रहें।
- यदि आप अस्वस्थ महसूस करते हैं तो घर पर रहें।
- चेहरा छूने से बचने के लिए मोबाइल फोन का उपयोग करते समय हेडफोन या स्पीकर फोन का उपयोग करें।



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• दिन का काम शुरू करने से पहले काम के कपड़े, कपड़े बदलने वाले स्थान में पहने जाने चाहिए। सीटी / पीटी परिसर में हमेशा मास्क, दस्ताने, जूते और उपयुक्त कपड़े (जैसे लंबी आस्तीन वाली शर्ट, लंबी पतलून और एप्रन) का उपयोग करें।



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COMMUNITY/ PUBLIC TOILET

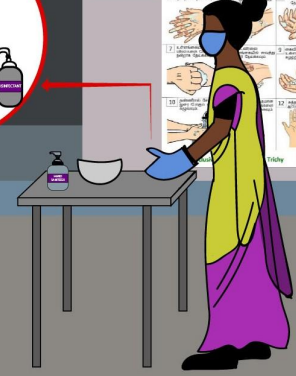
GENTS



- सुनिश्चित करें कि शौचालय परिसर में साबुन या हैंड सैनिटाइज़र उपलब्ध हैं और शौचालय उपयोगकर्ताओं को इसका उपयोग करने के लिए प्रोत्साहित करें।
- फीस के पैसे सिक्कों में लेने को प्रोत्साहित करना। इकट्ठा किए गए सिक्कों का उपयोग उन्हें कीटाणुमुक्त करने के बाद किया जा सकता है।



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GENTS

- उपयोगकर्ता से फीस लेने वाले काउंटरों पर उपयोगकर्ताओं से कम से कम 1 मीटर की दूरी बनाए रखने के लिए किसी चीज़ से रुकावट बनाएँ।
- प्रत्यक्ष उपयोगकर्ताओं को आपस में शारीरिक दूरी (कम से कम 1 मीटर) बनाए रखनी चाहिए और उपयोग के बाद शौचालय को ठीक से साफ करना चाहिए।

1M



LADIES

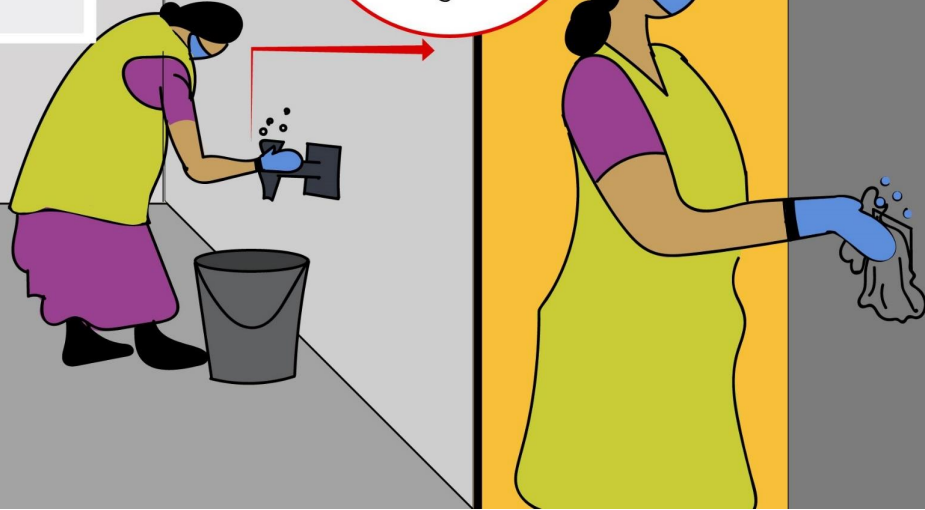


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• बार-बार छुई जाने वाली सतहों (दरवाजे के हैंडल, आर्मरेस्ट, टेबल टॉप, लाइट स्विच, पानी के नल) को बार-बार (हर 2-4 घंटे में एक बार) कीटाणुनाशक के साथ साफ करें।



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• शौचालय के कटोरे को हर दिन कम से कम दो से तीन बार साफ करें। उपयोग के आधार पर अधिक बार साफ।



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- दस्ताने पहनें, शौचालय में गीले कपड़े और कीटाणुनाशक के साथ, दरवाजे के हैंडल, नल, फव्वारा, शीशे और साबुनदानी (सोप डिस्पेंसर) को साफ (विसंक्रमित) करें।
- सफाई का कपड़ा, कपड़े धोने वाली थैली में रखें।



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- शौचालय के कटोरे की सफाई करते समय, सुरक्षात्मक दस्ताने पहनें।
- शौचालय के कटोरे, ढक्कन के दोनों तरफ और सीट पर (वेस्टर्न के लिए) और (भारतीय के लिए) पैर रखने वाले स्थान में डिटर्जेंट डालें। शौचालय को फ्लश करें।
- दाग पर विशेष ध्यान देते हुए कटोरे पर टॉयलेट बाउल क्लीनर लगाएं। कटोरे को टॉयलेट ब्रश से साफ करें।
- जब आप टॉयलेट फ्लश करें तो ब्रश को धो लें।
- दस्ताने कीटाणुरहित करें और उन्हें उनके सही डब्बे में डालें।



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• फर्श की सफाई, सफाई उपकरण और बहुउद्देश्यीय क्लीनर करें।

• उपकरण और दस्ताने और साथ ही उनके डब्बों को पानी और कीटाणुनाशक क्लीनर से धोएं और साफ करें। फर्श की सफाई के उपकरण और क्लीनर कंटेनरों की छुई जाने वाली सतहों को कीटाणुनाशक से साफ करें।



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• इसके बाद, आपने जो दस्ताने पहने हैं उनको कीटाणुनाशक के साथ धो लें। पानी और साबुन से अपने हाथ अपनी कोहनी तक धोएं।



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•काम वाले कपड़ों को कार्यस्थल पर कीटाणुनाशक के साथ धोया जाना चाहिए।



CHANGE ROOM



•कार्यस्थल से बाहर निकलने से पहले, कपड़े बदलने वाले स्थान पर अपने काम के कपड़ों को निकाल दें और अपने खुद के कपड़े पहन लें।



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•कचरे के डिब्बे में रिसावरोधी और आसानी से निकले जाने वाले बैग का उपयोग करें। कचरे के डिब्बे की निगरानी करें और उन्हें तीन-चौथाई से ज्यादा न भरने दें। कचरे के डिब्बे को रोजाना खाली करें। जमा



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व्यक्तिगत सुरक्षा उपकरण
(पीपीई)

- कपड़े का मास्क
- दस्ताने
- हेड बैंड और रिस्ट बैंड
- पूरे पैर को ढकने वाले जूते / गम बूट



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व्यक्तिगत सुरक्षा उपकरण (पीपीई/PPE) इस्तेमाल करने का तरीका

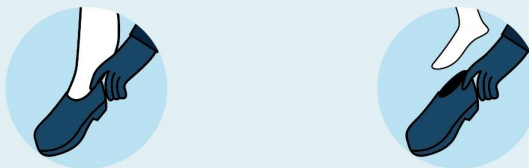
1. नाक और मुँह को मास्क से ढक लें और इलास्टिक बैंड को सरि और गर्दन के पीछे बांध लें। हटाने समय: मास्कके आगे का हिस्सा / रेस्पिरिटर दूषित होता है उसे न छुएँ! इलास्टिक्स या फीते को नीचे से पकड़ें और सामने का हिस्सा छुए बिना निकाल दें।



2. दस्ताने पहनें और उन्हें कोहनी तक चढ़ा लें। दस्ताने के बाहर का भाग दूषित होता है, दस्ताने को उतारने के लिए दस्ताने पहने हुये दूसरे हाथ का उपयोग करें, दूसरा दस्ताना भी इसी तरीके से उतारें।



3. अपने पैरों को ढकने के लिए जूते पहनें। जूतों को दस्ताने वाले हाथों से निकालें।



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हाथ की सफाई निम्न पाँच मौकों पर ज़रूर की जानी चाहिए



- व्यक्तिगत सुरक्षा उपकरण (पीपीई) पहनने से पहले और उसे उतारने के बाद, दस्ताने बदलते समय
- किसी भी शौचालय की सफाई या रखरखाव गतिविधि के बाद
- साँस से निकली किसी भी चीज़ के संपर्क में आने के बाद
- खाने से पहले
- शौचालय का उपयोग करने के बाद



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18. Social distancing at CT pictures



Source: Centre for Water and Sanitation (CWAS), CEPT University, Ahmedabad



Source: Centre for Water and Sanitation (CWAS), CEPT University, Ahmedabad



Source: Centre for Water and Sanitation (CWAS), CEPT University, Ahmedabad



Source: Centre for Water and Sanitation (CWAS), CEPT University, Ahmedabad



Source: Centre for Water and Sanitation (CWAS), CEPT University, Ahmedabad





Part C:

PREPARING FOR EMERGENCY COVID RESPONSE

CONSIDERATIONS FOR BUDGET
PREPARATION FOR URBAN SANITATION



Waste management is an essential public service in response to combat with the novel coronavirus disease (COVID-19). The pandemic is continuing to spread and its impact upon human health and the economy is intensifying day-by-day. Urban Local Bodies (ULBs) are urged to treat and manage the waste, including of medical, household and other hazardous waste, as an urgent and essential public service in order to minimise possible secondary impacts upon health and the environment. Ensuring safe water supply, solid waste management, safe sanitation and hygiene practices in communities, residential, schools, market places, and health care facilities are important. When it comes to risking their lives for the protection of others, in the present times, sanitation workers are at par with doctors, healthcare workers and policemen. Sanitation workers- '*Safai Yodhas*' are standing in front line of the battle against this global pandemic and we need to support them with all means including protective gear, to fight this crisis.

This section provides guidance to State governments and Urban Local Bodies and any other agency working for sanitation workers safety, for developing proposals for funding for protective gear and materials for addressing COVID 19 risks. However, any proposal must conform to the Government of India and relevant State Government Advisories, hence it is important to read this section together with Part-A of this Resource Book.

Following Steps may be undertaken at the Town Level:

1. Prepare a Sanitation Workers Safety Risk Matrix

Some typical sanitation work and risk involved is created so that the ULBs and agencies purchase and utilise the proactive gears in the best possible manner. An initial assessment of sanitation workers activities, hazardous events and associated severity of risks are identified arbitrarily by many journals. Any more activities that are state and ULB specific, may be added or removed from this list.

Sanitation Activity	Possible Hazardous Events	Severity of the Risks Involved
Sanitary workers in hospital/ Quarantine centers	Coming in direct contact with infected patients' refuse, contaminated surfaces and infectious bio medical waste.	Very high risk
Door to Door (D2D) waste collection	Coming in contact with infected person/waste	Moderate Risk
Street sweeping	Exposure to surfaces infected through respiratory droplets	Low risk to moderate risk
Sewer and drain cleaning and Desludging of septic tanks	Coming in direct contact with excreta from infected person	Moderate risk
Community/Public Toilets cleaners/caretaker	Coming in contact with surfaces infected through respiratory droplets	Moderate to High risk
STP/ FSTP operator	Coming in contact with wastewater carrying virus especially at screens unit and grit chambers	Moderate risk

2. Checklist of Priority Tasks and Actions

Planning at state level should factor in the following priorities:

Priority Tasks and Actions		
1	<input type="checkbox"/>	Initiate State and ULB level Task Forces to coordinate work; Activate multi-sectoral, multi-partner coordination mechanisms to support preparedness and response
2	<input type="checkbox"/>	Take a stock of all permanent and contractual sanitation workers employed for Solid Waste Management (including hotspots, hospitals and quarantined homes), landfills, street sweeping, sewer and drains cleaning, cleaning at market yards, haats/mandis, parks and common places, STPs and FSTPs. Identify who may need financial support if laid off by private contractors.
3	<input type="checkbox"/>	Issue passes for sanitation workers to move across sealed boundaries and defy curfew in residential areas
4	<input type="checkbox"/>	Disseminate collaterals through WhatsApp, for simple yet clear understanding of the COVID-19 pathogen spread and its risk and immediate safety steps to be followed by all sanitation workers
5	<input type="checkbox"/>	Prepare a list of sanitation workers' safety gears requirement. Discuss with anganwadis, schools, self-help groups and health departments, to prioritize procurement items for a given duration of requirement (3 to 6 months).
6	<input type="checkbox"/>	Plan Sanitation work in order to minimize risk of infection <ol style="list-style-type: none"> 1. Teams that serve areas of a town or colonies, that are NOT declared HOTSPOTS. 2. Teams that do routine cleaning work in public areas such as parks, streets, markets and commercial areas. 3. Teams engaged in direct contact with HOTSPOTS: Collection and treatment of waste under BMW rules, quarantined homes/ hospitals/ centers

3. Preparing a budget

The time of COVID-19 pandemic is a time when the demand for protective gear has skyrocketed and the supplies have dwindled.

- Prioritize the categories of workers who require protective gear and also category wise required protective gear.
- The Government of India and various state governments have detailed out the **Essential protective gear** and this needs to be factored in the budget making process.
- Some Civil Society Organisations who possess expertise in the area of sanitation have also drafted documents highlighting the need for protective gear for sanitation workers, FSTP operators, operators of community and public toilets and other categories of workers. The protective gear specified in these documents and not found in government advisories have been considered as **Desirable protective gear**. Providing Desirable protective gear may be considered optional, if funds do not permit.

Considerations for Sanitation Workers Protective Gear and Sanitization materials:

- Reusable protection gear over disposable ones
- Protective gear must be disinfected, washed and sun dried as per guidelines issued by Govt from time to time.
- For monthly requirement: 6 masks, 3 pairs of gloves, 2 aprons, 1 pair of boots, 2 coveralls, 1 pair of safety goggles per person can be considered
- Based on the current circumstances and to ensure uninterrupted service, the items can be procured for next six months in phase wise manner
- For disinfection purpose Sodium Hypochlorite solution (1%) should be considered or any other material designated by the national/state govt.

- For temporary storage of Bio Medical Waste (BMW) yellow colored garbage bags should be considered.
- Mandatory orientation of Sanitation Workers and Waste pickers on COVID-19, Social Distancing norms and key precautionary measures to be taken including frequent hand-washing, avoid touching their face and wearing Protective gears.
- List of Do's and Dont's to be practiced while performing their duties and extending necessary support to them.
- For transportation of BMW to CBWTF 21 Light Commercial Vehicles can be considered which can easily maneuvered through narrow roads.

4. Budget Templates

4.1 Protective Personal Gear (Budget estimation for one month for both men and women)

Sanitary Workers in Covid-19 Hospitals and all other Healthcare Facilities

S. No.	No. of WORKERS	ITEM	ESSENTIAL/DESIRABLE	QUANTITY	RATE	PRICE
1		Ng5 face mask @ 6 no. per person	Essential			
2		Chemical resistant Nitrile gloves @ 3 pairs per person	Essential			
3		Aprons with 2 inch reflective tape @ 2 nos. per person	Desirable			
4		Gum boots @ 1 pair per person	Desirable			
5		Coveralls @ 2 no. per person	Desirable			
				Total		

Sanitary Workers Involved in Cleaning Quarantine Centres

S. No.	No. of WORKERS	ITEM	ESSENTIAL/DESIRABLE	QUANTITY	RATE	PRICE
1		Triple layer masks @ 6 no. per person	Essential			
2		Chemical resistant Nitrile gloves @ 3 pairs per person	Essential			
3		Aprons with 2 inch reflective tape @ 2 nos. per person	Desirable			
4		Gum boots @ 1 pair per person	Desirable			
				Total		

Sanitary Workers Involved in Handling and Collection of BMW from Quarantine Centres, Homes and Houses of People under Self Quarantine

S. No.	No. of WORKERS	ITEM	ESSENTIAL/DESIRABLE	QUANTITY	RATE	PRICE
1		Triple layer masks @ 6 no. per person	Essential			
2		Aprons with 2 inch reflective tape @ 2 nos. per person	Essential			
3		Chemical resistant Nitrile gloves @ 3 pairs per person	Essential			
4		Gum boots @ 1 pair per person	Essential			
5		Safety goggles@ 1 no. per person	Essential			
				Total		

Workers at Common Biomedical Waste Treatment Facility

S. No.	No. of WORKERS	ITEM	ESSENTIAL/DESIRABLE	QUANTITY	RATE	PRICE
1		Triple layer masks @ 6 no. per person	Essential			
2		Aprons with 2 inch reflective tape @ 2 nos. per person	Essential			
3		Chemical resistant Nitrile gloves @ 3 pairs per person	Essential			
4		Gum boots @ 1 pair per person	Essential			
5		Safety goggles@ 1 no. per person	Essential			
				Total		

Sanitary Workers Involved in Cleaning of CTs and PTs and Sewer Cleaning

S. No.	No. of WORKERS	ITEM	ESSENTIAL/DESIRABLE	QUANTITY	RATE	PRICE
1		Triple layer masks @ 6 no. per person	Essential			
2		Chemical resistant Nitrile gloves @ 3 pairs per person	Essential			
3		Gum boots @ 1 pair per person	Essential			
4		Aprons with 2 inch reflective tape @ 2 nos. per person	Desirable			
				Total		

Sanitary Workers Collecting Waste from Regular Households

S. No.	No. of WORKERS	ITEM	ESSENTIAL/ DESIRABLE	QUANTITY	RATE IN RS.	AMOUNT IN RS.
1		Triple layer masks @ 6 no. per person	Essential			
2		Chemical resistant Nitrile gloves @ 3 pairs per person	Essential			
3		Gum boots @ 1 pair per person	Desirable			
4		Aprons with 2 inch reflective tape @ 2 nos. per person	Desirable			
				Total		

4.2 Material for cleaning and sanitizing (Budget estimation for one month for both men and women)

Street Sweepers and Drain Cleaners

S. No.	No. of WORKERS	ITEM	ESSENTIAL/ DESIRABLE	QUANTITY	RATE IN RS.	AMOUNT IN RS.
1		Triple layer masks @ 6 no. per person	Essential			
2		Chemical resistant Nitrile gloves @ 3 pairs per person	Essential			
3		Gum boots @ 1 pair per person	Essential			
4		Aprons with 2 inch reflective tape @ 2 nos. per person	Desirable			
				Total		

Workers Employed at STP/FSTP

S. No.	No. of WORKERS	ITEM	ESSENTIAL/ DESIRABLE	QUANTITY	RATE IN RS.	AMOUNT IN RS.
1		Homemade Masks @ 3 no. per person	Essential			
2		Chemical resistant Nitrile gloves @ 3 pairs per person	Desirable			
3		Gum boots @ 1 pair per person	Desirable			
4		Aprons with 2 inch reflective tape @ 2 nos. per person	Desirable			
				Total		

Final Budget:

Consolidated Estimations for all Items

S. No.	ITEM	AMOUNT IN RS.
1	Estimations of Essential Items	
2	Estimations of Desirable items	
	Total	

With the help of a working example, and by taking random no. of workers under each category for Sanitation Workers Safety, has been estimated for a month required by a State Government; please see **Annexure -I**

Annexure I: Working Example of Budget Preparation – A case of Uttarakhand State

NIUA prepared a proposal on behalf of the State government of Uttarakhand for the purpose of protecting sanitation workers in Uttarakhand from the impact of COVID19. The following numbers depict **one month requirement** of sanitation workers' personal gears and sanitation materials: Considering the total number of sanitation workers to be **18,200**.

1. Sanitation Workers & Requirements

S. No.	CATEGORY	ESTIMATED NO.OF WORKERS	REUSABLE PROTECTIVE GEAR(NUMBERS/PAIRS PER PERSON)		OTHER ITEMS	SOURCE (ESSENTIALS)
			ESSENTIAL	DESIRABLE		
1	Sanitary workers in COVID-19 Hospitals and all other Healthcare facilities	2000	N95 Mask(6), Nitrile gloves(2)	Aprons(2), Gum boots(1), Coveralls(2)	Yellow garbage bags for infectious waste, Disinfectants	Guidelines for rational use of PPE by MoHFW
2	Sanitary workers involved in cleaning quarantine centres	1000	Triple layer masks(6) and Nitrile gloves(2)	Aprons(2), Gum boots(1)	Yellow garbage bags for infectious waste, Disinfectants, Handwashing units	Guidelines for rational use of PPE by MoHFW
3	Sanitary workers involved in handling and collection of BMW from quarantine centres, homes and houses of people under self-quarantine	2500	Triple layer masks(6), Aprons(2), Nitrile gloves(2), Gum boots(1) and Safety goggles(1)		Disinfectants, Handwashing units	Guidelines for waste disposed from quarantine facilities, CPCB
4	Workers at CBWTF	200	Triple layer masks(6), Aprons(2), Nitrile gloves(2), Gum boots(1) and Safety goggles(1)		Vehicles for transporting Biomedical Waste	Guidelines for waste disposed from quarantine facilities, CPCB
5	Sanitary Workers involved in Cleaning of CTs and PTs and sewer cleaning	1500	Triple layer masks(6), Gum boots and Nitrile gloves(2)	Aprons(2)	Disinfectants, Permanent foot operated Handwashing units	Guidelines on disinfection of common public places including offices
6	Sanitary workers collecting waste from rest of the households	5000	Triple layer masks(6) and Nitrile gloves(2)	Aprons(2), Gum boots(1)	Handwashing units	Additional advisory for maintaining cleanliness during lockdown period (English) by MoHUA
7	Street sweepers and drain cleaners	3500	Triple layer masks(6), Gum boots and Nitrile gloves(2)	Aprons(2)	Disinfectants, Handwashing units	Guidelines on disinfection of common public places including offices
8	Workers employed at STP/FSTP Desludging operators	2500	Homemade protective cover for face and mouth(3)	Nitrile Gloves(2) , Aprons(2) , Gum boots(1)	Handwashing units	

2. Consolidated Budget of Essential Protective Gear

S. NO.	ITEM	NO. OF WORKERS	QUANTITY	RATE IN RS.	AMOUNT IN RS.
1	N95 face mask @ 6 no. per person	2000	12000	130	1560000
2	Triple layer masks @ 6 no. per person	13700	82200	50	4110000
3	Homemade Masks @ 3 no. per person	2500	7500	20	150000
4	Safety goggles@ 1 no. per person	2700	2700	80	216000
5	Chemical resistant Nitrile gloves @ 3 pairs per person	15700	47100	150	7065000
6	Aprons with 2 inch reflective tape @ 2 nos. per person	2700	5400	300	1620000
7	Gum boots @ 1 pair per person	7700	7700	300	2310000
			Total		1,70,31,000

3. Budget for Essential Items other than Protective Gear

S. No.	ITEM	QUANTITY	RATE IN RS.	AMOUNT IN RS.
1	Yellow garbage bags for infectious waste storage	25000	2	50000
2	Disinfectant (Sodium Hypochlorite solution 1l)	25000	100	2500000
3	Handwashing units	3500	500	1750000
4	Light Commercial Vehicle for transporting Biomedical waste two for Dehradun, one per other Municipal corporations and one per district for other ULBs	21	650000	13650000
		Total		1,79,50,000

4. Consolidated Budget for all Essential Items

S. No.	ITEM	AMOUNT IN RS.
1	Estimations of Essential protective gear	17031000
2	Estimations for essential items other than protective gear	17950000
	Total	34981000

5. Budget of Desirable Protective Gear

S. No.	ITEM	QUANTITY	RATE IN RS.	AMOUNT IN RS.
1	Aprons with 2 inch reflective tape @ 2 nos. per person	31000	300	9300000
2	Gum boots @ 1 pair per person	10500	300	3150000
3	Coveralls @ 2 no. per person	4000	750	3000000
4	Chemical resistant Nitrile gloves @ 3 pairs per person	7500	150	1125000
		Total		16575000

6. Consolidated Budget for all items

S. No.	ITEM	AMOUNT IN RS.
1	Estimations of Essential Items	34981000
2	Estimations of Desirable items	16575000
	Total	5,15,56,000

Thus, a gross amount of approximately **5.15 crores** rupees would be required for procurement of all essential, desirable and other items for a month (except few items like boots, aprons, vehicle etc.) required by a state for their 18,200 sanitary workers.

Annexure II

List of Vendors for Protective Gear

SR. NO.	NAME OF COMPANY	LOCAL/ INTERNATIONAL	ADDRESS	CONTACT DETAILS	
				CONTACT NUMBER	EMAIL
1	Cabson Enterprises	Dealer of 3M, HONEYWELL, JCB, TIGER & WORKTOES and has manufactured the PPEs with S1 and SPARTAN brands (Local)	5-1-526, Hill Street, Ganji Complex 2nd Floor, Ranigunj, Secunderabad : 500 003	040-6453 9461, 09949601427	sarah.enterprises@rediffmail.com
2	Karam	Indian Manufacturer	T-19 Towers, Block 2, Unit 901, 9th Floor, Karbala Maidan, Besides Ranigunj Bus Depot, Ranigunj, Secunderabad- 500 003 Telangana	040-27807675, 09985953535	karam@karam.in
			5-5-51/1, 2nd Floor, SL Complex, Ranigunj, Secunderabad- 500003 Hyderabad, Telangana 500003 India	096033 05355, 097000 00708	
3	Unique Industrials	Indian Manufacturer / Local	5-1-570, Hill Street, Rani Gunj, Hyderabad-500003, Telangana (India)	8037304413	
4	Mallcom	Indian Manufacturer	EN-12, Sector-V, Salt Lake Kolkata 700 091	033-40161000	sales@mallcom.in
5	Udyogi	Indian Manufacturer	294, B.B.Ganguly Street, 2nd Floor, Kolkata-700 012	033-2225-1470 033-2225-1471 033 2225-1472	info@udyogi.net
6	Safewell	Indian Manufacturer / Local	BP-7, Suit No. 504, 5th Floor, Ecostation, Sec-V, Salt Lake City, Kolkata – 700091, India.	033-23674444	kolkata@acmesafety.in hyderabad@acmesafety.in
7	Venus Safety and Health Pvt. Ltd.	Indian Manufacturer / Local	L75/76, Tondre village, MIDC, Taloja, Maharashtra, 410208.	022-27410018	info@venusohs.com
8	3M India Ltd	International Manufacturer - India Office			
9	DuPont India Pvt Ltd.	International Manufacturer - India Office	ICICI Knowledge Park, Genome Valley, Survey No.542/2, DS -9 Turkapally(Village), Shameerpet (Mandal), Ranga Reddy(District), Hyderabad-500078 (Andhra Pradesh)	040-66247000	
10	Honeywell Safety India	International Manufacturer - India Office	5th Floor, Unitech Trade Center, Sector 43, Block-C, Sushant Lok, Phase-1, Gurgaon 122002, Haryana	0124-4975000	hsp-india@honeywell.com

11	Jayco Safety Products Pvt. Ltd.	Indian Manufacturer / Local	125, Neha Industrial Estate, Dattapada Cross Road, Near Su Swagat Restaurant, Borivali(East), Mumbai - 400066.	022-49791200	info@jaycosafety.com
			82/84, 2nd Floor, Above Satkar Hotel, Masjid Bunder, Mumbai - 400 003.	022-23456395	mumbai@jaycosafety.com
12	Uviraj Global Private Limited	Indian Manufacturer / Local	S 17-18, Panki Industrial Area, Site-IV, Kanpur, Uttar Pradesh, 208022	0512-2690031, 0032	sales@uviraj.com, support@uviraj.com, enquiry@uviraj.com
13	Neo Safety Products Pvt. Ltd.	Indian Manufacturer / Local	23, N.S. Road, 6 Commercial Building 1st Floor, Kolkata - 700 001, India.	09836582791, 033-22421664	sales@neosafety.in
14	Sairam Safety Engineers	Local Dealer	Safety House, Plot no 55, Malany Colony, New Bowenpally Road, Secunderabad, Telangana	040-42300068	info@subhamsafety.com
15	Hi-Tech Surgical Company	Local Dealer	A-37, DSIIIDC, Engineering Complex, Mangolpuri Industrial Area, Phase 1, Delhi 110083	9891116766	sales@htscindia.com
16	Alko Plus Technosafe Pvt. Ltd.	Indian Manufacturer / Local	Plot No. 69 - 70, Sector 17, HSIIDC Industrial Estate, Bahadurgarh, Haryana - 124507	9811000742	info@alkoplus.com
17	Unicare Emergency Equipments Pvt. Ltd.	Indian Manufacturer / Local	Leslico House, 2nd Floor, Prof. V. S. Agashe Road, Dadar (W), Mumbai- 400028 (India)	022-2422 7198 / 1878 /1880	mumbai@unicaremail.com

Source: Saniverse and others



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