COVID 19 AND SAFE SANITATION PRACTICES FOR URBAN CONTEXT

Resource Book of GoI Advisories and Practitioners’ Resources for Indian Cities
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National Institute of Urban Affairs

NFSSM Alliance
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.
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.

Hitesh Vaidya
Director, NIUA
22nd April 2020
TABLE OF CONTENT

Part A: GOVERNMENT ADVISORIES:
Recommended measures

1. Guidelines for Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/Quarantine of Covid19 Patients (English) by CPCB on 18 April 2020 ................................................................. 3
2. Instructions for safe disposal of waste from quarantined households (English) by MoHUA, GoI on 21 March 2020 ...................................................................................................................... 10
3. Advisory on Safe Management of Water Supply and Sanitation services during COVID19 crisis (English) by CPHEEO, MoHUA, GoI on April 2020 .................................................................................................................. 11
4. Ensuring Health and Safety of Sanitation Workers and Waste-pickers in the wake of spread of COVID-19 (English) by NSKFDC, MoSJE, GoI on 7 April 2020 ........................................................................................................ 19
5. Advisory for ensuring Health and Safety of Sanitation workers during COVID19 (English) by MoSJ&E, GoI on 20 April 2020 .................................................................................................................. 20
6. Guidelines on rational use of PPE in sanitation (English) by MoHFW, GoI on March 2020 .......................................................... 24
7. Role of Frontline workers in prevention and management of Corona virus (English) by MoHFW, GOI ........................................ 27
8. Assistance from State Disaster response Fund by PIB, GOI ............................................................................................................. 31
9. Regarding proposal to support govt through CSR (English) by GoUP on 6 April 2020 .................................................................. 32
10. Guidelines for Hygiene and Sanitation in Densely Populated Areas, During the COVID-19 Pandemic by PIB, GoI ................................................................................................................... 33
11. Poster: Do’s and Don’ts during Covid19 (English) by MoHFW, GOI ........................................................................................... 45
12. Poster: Do’s and Don’ts during Covid19 (Hindi) by MoHFW, GOI ............................................................................................... 46
13. Poster: Social distancing (English) by MoHFW, GOI ....................................................................................................................... 47
14. Poster: Social distancing (Hindi) by MoHFW, GOI ......................................................................................................................... 48
15. Additional advisory for maintaining cleanliness during lockdown period (English) by MoHUA, GoI on 26 March 2020 ............... 49
16. Guidelines on disinfection of common public places including offices on 29th March 2020 (English) ...................... 51

Part B: PRACTITIONERS’ RESOURCES

1. Guidelines for Desludging operators (English) by IIHS, Bengaluru ......................................................................................... 59
2. Guidelines for Desludging operators (Hindi) by IIHS, Bengaluru ............................................................................................... 65
3. Desludging operators’ poster by UMC, Ahmedabad ...................................................................................................................... 71
4. Guidelines for FSTP operators (English) by IIHS, Bengaluru ........................................................................................................ 72
5. Guidelines for FSTP operators (Hindi) by IIHS, Bengaluru ........................................................................................................ 80
6. FSTP operators’ poster by UMC, Ahmedabad ............................................................................................................................. 88
7. Personal Protective Equipments (PPE) for sanitation workers (English) by Saniverse ............................................................................ 89
8. D2D Waste collectors’ poster by UMC, Ahmedabad ...................................................................................................................... 102
9. Street sweepers’ safety poster by UMC, Ahmedabad ...................................................................................................................... 103
10. Drain cleaners’ poster by UMC, Ahmedabad ............................................................................................................................... 104
11. Community toilet (CT) caretakers’ poster by UMC, Ahmedabad ............................................................................................... 105
12. Handwashing steps Poster (English) by WaterAid ....................................................................................................................... 106
13. Handwashing steps Poster (Hindi) by WaterAid .......................................................................................................................... 107
14. When to wash hands Poster (English) by WaterAid .......................................................................................................................... 108
15. When to wash hands Poster (Hindi) by WaterAid .......................................................................................................................... 109
16. Guidelines for Sanitation Workers (CT/PT) (English) by IIHS, Bengaluru .................................................................................. 110
17. Guidelines for Sanitation Workers (CT/PT) (Hindi) by IIHS, Bengaluru .................................................................................. 119
18. Social distancing at CT pictures ......................................................................................................................................................... 128

Part C: PREPARING FOR EMERGENCY COVID RESPONSE:
Considerations for Budget Preparation for Urban Sanitation

01 57 133
## Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT</td>
<td>Community Toilet</td>
</tr>
<tr>
<td>CPCB</td>
<td>Central Pollution Control Board</td>
</tr>
<tr>
<td>CSR</td>
<td>Corporate Social Responsibility</td>
</tr>
<tr>
<td>CPHEEO</td>
<td>Central Public Health and Environmental Engineering Organisation</td>
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<tr>
<td>FSTP</td>
<td>Faecal Sludge Treatment Plant</td>
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<td>GoI</td>
<td>Government of India</td>
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<td>GoUP</td>
<td>Government of Uttar Pradesh</td>
</tr>
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<td>GoO</td>
<td>Government of Odisha</td>
</tr>
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<td>IEC</td>
<td>Information, Education and Communication</td>
</tr>
<tr>
<td>IIHS</td>
<td>Indian Institute for Human Settlements</td>
</tr>
<tr>
<td>MoHUA</td>
<td>Ministry of Housing and Urban Affairs</td>
</tr>
<tr>
<td>MoHFW</td>
<td>Ministry of Health and Family Welfare</td>
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<td>MoSJ&amp;E</td>
<td>Ministry of Social Justice and Empowerment</td>
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<td>MoEFCC</td>
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<tr>
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<td>Ministry of Social Justice and Empowerment</td>
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<td>MoRD</td>
<td>Ministry of Rural Development</td>
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<td>PIB</td>
<td>Press Information Bureau</td>
</tr>
<tr>
<td>PT</td>
<td>Public Toilet</td>
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<td>PPE</td>
<td>Personal Protective Equipment</td>
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<td>STP</td>
<td>Sewage Treatment Plant</td>
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<tr>
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<td>Urban Local Body</td>
</tr>
<tr>
<td>UMC</td>
<td>Urban Management Centre</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
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.
<table>
<thead>
<tr>
<th>Sr No</th>
<th>Sector</th>
<th>Name of Document</th>
<th>Aspects covered</th>
<th>Language</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Solid Waste Management</td>
<td>Guidelines for Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/Quarantine of COVID-19 Patients</td>
<td>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</td>
<td>English</td>
<td>CPCB, MoEFCC, GoI</td>
</tr>
<tr>
<td>2</td>
<td>Solid Waste Management</td>
<td>Instructions for safe disposal of waste from quarantined households</td>
<td>Safe disposal of waste from quarantined households Sanitary workers’ attendance</td>
<td>English</td>
<td>MoHUA, GoI</td>
</tr>
<tr>
<td>3</td>
<td>Liquid Waste Management</td>
<td>Advisory on Safe Management of Water Supply and Sanitation Services during COVID19 crisis</td>
<td>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</td>
<td>English</td>
<td>CPHEEO, MoHUA, GoI</td>
</tr>
<tr>
<td>4</td>
<td>Health and Safety of Sanitation workers</td>
<td>Ensuring Health and Safety of Sanitation Workers and Waste-pickers in the wake of spread of COVID-19</td>
<td>Guided the ULBs to prepare the SOP covering: - Mandatory orientation, Social Distancing norms and key precautionary measures - List of Do’s and Don’t’s during work - Providing PPE</td>
<td>English</td>
<td>NSKFDC, MoSJE, GoI</td>
</tr>
<tr>
<td>5</td>
<td>Health and Safety of Sanitation workers</td>
<td>Advisory for ensuring Health and Safety of Sanitation workers during COVID19</td>
<td>Standard operating procedures, Specific measures to be taken by sanitation workers, and PPE/Safety gears for sanitation workers and choice of disinfectant.</td>
<td>English</td>
<td>MoSJE, GoI</td>
</tr>
<tr>
<td>7</td>
<td>Health and Safety of Sanitation workers</td>
<td>Role of Frontline workers in prevention and management of Corona virus</td>
<td>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</td>
<td>English</td>
<td>MoHFW, GoI</td>
</tr>
<tr>
<td>8</td>
<td>Assistance from State Disaster response Fund</td>
<td>Assistance from State Disaster response Fund</td>
<td>For PPE for healthcare, municipal, police and fire authorities</td>
<td>English</td>
<td>PIB, GoI</td>
</tr>
<tr>
<td>9</td>
<td>Regarding proposal to support govt through CSR</td>
<td>Regarding proposal to support govt through CSR</td>
<td>CSR support for soap and N-95-masks to GoUP</td>
<td>English</td>
<td>GoUP</td>
</tr>
<tr>
<td>10</td>
<td>Guidelines for Hygiene and Sanitation in Densely Populated Areas, During the COVID-19 Pandemic</td>
<td>Guidelines for Hygiene and Sanitation in Densely Populated Areas, During the COVID-19 Pandemic</td>
<td>Preventive Measures at home and public areas Face Cover Sanitation and Hygiene: - Hand Washing - Toilet usage - sanitization</td>
<td>English</td>
<td>PIB, GoI</td>
</tr>
<tr>
<td></td>
<td>Title</td>
<td>Description</td>
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<td>Author</td>
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</tr>
<tr>
<td>11</td>
<td>Poster: Do's and Don'ts during Covid19</td>
<td>Personal hygiene and safety</td>
<td>English</td>
<td>MoHFW, GOI</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Poster: Do's and Don'ts during Covid19</td>
<td>Personal hygiene and safety</td>
<td>Hindi</td>
<td>MoHFW, GOI</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Poster: Social distancing</td>
<td>Measures to be kept in mind while observing Social Distancing</td>
<td>English</td>
<td>MoHFW, GOI</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Poster: Social distancing</td>
<td>Measures to be kept in mind while observing Social Distancing</td>
<td>Hindi</td>
<td>MoHFW, GOI</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Advisory for maintaining cleanliness during lockdown period</td>
<td>Special cleaning of public places</td>
<td>English</td>
<td>MoHUA, GoI</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Sanitisation of public spaces</td>
<td>Safe disposal of waste from quarantined households</td>
<td>English</td>
<td>MoHFW, GoI</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Sanitisation of public spaces</td>
<td>Safe disposal of masks and other related waste from non-quarantined households</td>
<td>English</td>
<td>MoHFW, GoI</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Sanitisation of public spaces</td>
<td>Welfare and protection of Sanitary workers</td>
<td>English</td>
<td>MoHFW, GoI</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Sanitisation of public spaces</td>
<td>Awareness and enforcement</td>
<td>English</td>
<td>MoHFW, GoI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Guidelines on disinfection of common public places including offices</td>
<td>Guidelines on disinfection of:</td>
<td>English</td>
<td>MoHFW, GoI</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Sanitisation of public spaces</td>
<td>- Indoor areas including office spaces</td>
<td>English</td>
<td>MoHFW, GoI</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Sanitisation of public spaces</td>
<td>- Outdoor areas</td>
<td>English</td>
<td>MoHFW, GoI</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Sanitisation of public spaces</td>
<td>- Public toilets</td>
<td>English</td>
<td>MoHFW, GoI</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Sanitisation of public spaces</td>
<td>Personal Protective Equipment</td>
<td>English</td>
<td>MoHFW, GoI</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Sanitisation of public spaces</td>
<td>Handwashing technique</td>
<td>English</td>
<td>MoHFW, GoI</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Sanitisation of public spaces</td>
<td>Guidelines for use of mask</td>
<td>English</td>
<td>MoHFW, GoI</td>
<td></td>
</tr>
</tbody>
</table>

### Part B: Practitioners’ Resources

<table>
<thead>
<tr>
<th></th>
<th>Guidelines for Desludging operators</th>
<th>Safety measures to be taken by Desludging operators:</th>
<th>English</th>
<th>IIHS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>- Before leaving home</td>
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<td>Hand hygiene</td>
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<td>IIHS</td>
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<td></td>
<td>Hand hygiene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Desludging operators’ poster</td>
<td>Safety measures to be taken by Desludging operators:</td>
<td>English</td>
<td>UMC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Before leaving home</td>
<td></td>
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<td></td>
<td>- After finishing work</td>
<td></td>
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</tr>
<tr>
<td>4</td>
<td>Guidelines for FSTP operators</td>
<td>Safety measures to be taken by FSTP operators:</td>
<td>English</td>
<td>IIHS</td>
</tr>
<tr>
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<td>Required PPE</td>
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<td></td>
<td></td>
<td>Hand hygiene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Guidelines for FSTP operators</td>
<td>Safety measures to be taken by FSTP operators:</td>
<td>Hindi</td>
<td>IIHS</td>
</tr>
<tr>
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</tr>
<tr>
<td>6</td>
<td>FSTP operators’ poster</td>
<td>Safety measures to be taken by FSTP operator:</td>
<td>English</td>
<td>UMC</td>
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<tr>
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<td>- Before leaving home</td>
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</tr>
<tr>
<td>7</td>
<td>PPE for sanitation workers</td>
<td>When to use PPE Appropriate Combination of PPE Sanitation Workers in: -Liquid Waste Management -House Keeping -Solid Waste Management</td>
<td>English</td>
<td>Saniverse</td>
</tr>
<tr>
<td>8</td>
<td>D2D Waste collectors’ poster</td>
<td>Safety measures to be taken by Waste collector; -Before leaving home, -At work place and -After finishing work</td>
<td>English</td>
<td>UMC</td>
</tr>
<tr>
<td>9</td>
<td>Street sweepers’ poster</td>
<td>Safety measures to be taken by Street sweeper; -Before leaving home, -At work place and -After finishing work</td>
<td>English</td>
<td>UMC</td>
</tr>
<tr>
<td>10</td>
<td>Drain cleaners’ poster</td>
<td>Safety measures to be taken by Drain cleaner; -Before leaving home, -At work place and -After finishing work</td>
<td>English</td>
<td>UMC</td>
</tr>
<tr>
<td>11</td>
<td>CT caretakers’ poster</td>
<td>Safety measures to be taken by CT caretaker; -Before leaving home, -At work place and -After finishing work</td>
<td>English</td>
<td>UMC</td>
</tr>
<tr>
<td>12</td>
<td>Handwashing steps Poster</td>
<td>Pictorial representation of hand-washing steps</td>
<td>English</td>
<td>WaterAid</td>
</tr>
<tr>
<td>13</td>
<td>Handwashing steps Poster</td>
<td>Pictorial representation of hand-washing steps</td>
<td>Hindi</td>
<td>WaterAid</td>
</tr>
<tr>
<td>14</td>
<td>When to wash hands Poster</td>
<td>Important activities before (and after) which hand wash required</td>
<td>English</td>
<td>WaterAid</td>
</tr>
<tr>
<td>15</td>
<td>When to wash hands Poster</td>
<td>Important activities before (and after) which hand wash required</td>
<td>Hindi</td>
<td>WaterAid</td>
</tr>
<tr>
<td>16</td>
<td>Guidelines for Sanitation Workers (CT/PT)</td>
<td>Safety measures for CT/PT Operators while cleaning, at fee collection desk, emptying waste bins Required PPE</td>
<td>English</td>
<td>IIHS</td>
</tr>
<tr>
<td>17</td>
<td>Guidelines for Sanitation Workers (CT/PT)</td>
<td>Safety measures for CT/PT Operators while cleaning, fee collection, emptying waste bins etc. Required PPE</td>
<td>Hindi</td>
<td>IIHS</td>
</tr>
<tr>
<td>18</td>
<td>Social distancing at CT images</td>
<td>Image showing people practicing Social Distancing at Community Toilet</td>
<td>NA</td>
<td>CWAS, CEPT University</td>
</tr>
</tbody>
</table>
GOVERNMENT ADVISORIES
RECOMMENDED MEASURES
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]
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 BMWM 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.
- 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 case of test centers and laboratories. Pre-treat viral transport media, plastic vials, vacutainers, eppendorf tubes, plastic cryovials, pipette tips as per BMWM 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]
(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 BMWM 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.
- 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.
(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.

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

[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 repellant 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]

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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 specially 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 COVID-19 crisis by CPHEEO, MoHUA, GoI 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 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/article31241675.ece](https://www.thehindu.com/news/cities/chennai/metrowater-procures-protective-gear-for-field-workers-steps-up-checks-at-facilities/article31241675.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.

*****
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 Don’t’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.
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.
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 Coronavirus 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.

<table>
<thead>
<tr>
<th>S.no.</th>
<th>Setting</th>
<th>Activity</th>
<th>Risk</th>
<th>Recommended PPE</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Point of Entry-Sanitary Staff</td>
<td>Cleaning frequently touched surfaces/ Floor/ cleaning linen</td>
<td>Moderate risk</td>
<td>N-95 mask Gloves</td>
</tr>
<tr>
<td>2</td>
<td>Hospital setting-Sanitary Staff at Out Patient Department</td>
<td>Cleaning frequently touched surfaces/ Floor/ cleaning linen in COVID treatment areas</td>
<td>Moderate risk</td>
<td>N-95 mask Gloves</td>
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<tr>
<td></td>
<td>Hospital setting: Sanitation at In Patient Department</td>
<td>Cleaning frequently touched surfaces/ Floor/ cleaning linen</td>
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<tr>
<td>3</td>
<td>Hospital setting: Sanitation at Other Supportive/Ancillary Services</td>
<td>Cleaning frequently touched surfaces/ Floor/ cleaning line in COVID treatment areas</td>
<td>Moderate risk</td>
<td>N-95 mask Gloves</td>
</tr>
</tbody>
</table>

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.
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

   - 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.**
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

- 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.
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.

<table>
<thead>
<tr>
<th>Myths</th>
<th>Facts</th>
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<tbody>
<tr>
<td>1. The corona virus can be transmitted through mosquitoes.</td>
<td>The corona virus <strong>CANNOT</strong> be transmitted through mosquito bites.</td>
</tr>
</tbody>
</table>
| 2. Everyone should wear a mask. | People who should wear a mask are:  
  - 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 |
8. Assistance from State Disaster Response Fund by PIB, GOI

**Novel Coronavirus (COVID-19)**
**Assistance from State Disaster Response Fund (SDRF)**

**ITEMS**
- Procurement of essential equipments/labs for response to COVID-19:
  - 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.

**NORMS OF ASSISTANCE**
- 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.
- Total expenditure on equipment should not exceed 10% of the annual allocation of the SDRF.
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.
Guidelines for Hygiene and Sanitation in Densely Populated Areas, During the COVID-19 Pandemic

Office of the Principal Scientific Adviser to the Government of India, April, 2020
This handbook provides an outline of some guidelines which states/local bodies and communities can adopt, to contain the spread of COVID-19, especially in densely populated areas.

These guidelines are created specifically for areas where toilets, washing or bathing facilities are shared.

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.

You can use the Aarogya Setu App to self-assess and self-report to frontline workers in your area.

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.
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

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

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.

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

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

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

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

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.

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.

Implementation:
Implemented by:
Tashi Pamber (Lab attendant)
Sonam Tsering (Driver, Contract Employee)
Implementation Location: Indian Astronomical Observatory, Hanle, Ladakh.
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.

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.

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

- Uses all standard parts
- Nuts and Bolts Construction
- Modular

All Designs showcased here are sole property of Foley Designs Pvt Ltd.

How to Wash Hands

1. With sanitizer
2. Rub hands together
3. Rub hands with palm to back
4. Rinse hands
5. Rub hands with palm to back
6. Rinse hands
7. Dry hands

20-30 seconds with sanitizer

40-60 seconds with soap and water

Design by Foley Designs Pvt. Ltd.

COVID-19: Sanitation and Hygiene in Densely Populated Areas
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
- Never enter a toilet with bare feet. Always wear footwear.
- 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.
- Avoid overcrowding at the wash area.
- Do not spit or sneeze in the toilet. Always use a face cover in the toilet.
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:

<table>
<thead>
<tr>
<th>Available Hypochlorite Solution (Bleach, Phenyl)</th>
<th>Required Chlorine Concentration</th>
<th>To Prepare 1000ml Chlorine Solution in ml</th>
<th>Add water in ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>5%</td>
<td>1%</td>
<td>200</td>
<td>800</td>
</tr>
<tr>
<td>10%</td>
<td>1%</td>
<td>100</td>
<td>900</td>
</tr>
</tbody>
</table>

*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, nsuring 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.

**Additional Measures**

a. Thoroughly wash fruit and vegetables before use
b. 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:

1. Undertake intensive community outreach and awareness on importance of washing hands frequently and social distancing
2. Co-manage and maintain handwashing stations with communities
3. Ensure water availability to communities
4. Continually replenish soap and disinfectants
5. Follow all precautions strictly and rigorously
6. 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_20
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.
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.

**Don’ts 🔴**

- Have a close contact with anyone, if you’re experiencing cough and fever.
- Touch your eyes, nose and mouth.
- 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
नोवल कोरोनावायरस (COVID-19)

खुद रहें सुरक्षित, दूसरों को रखें सुरक्षित

क्या करें और क्या ना करें

क्या करें

- कबारे हाथ योग्य। जब आपके हाथ सफ्पत रूप से नहीं हो तो अपने हाथों को अल्कोहल - आण्वित ड्रिंक या साबुन और पानी से रूबरू करें।
- घर के ताले जाते समय, अपना मुंह और नाक दित्स/स्माल से बर्बत।

क्या न करें

- यदि आपके खांसी और बुखार का अंगुल भी हो रहा हो, तो किसी से साबुन नहीं ना आये।
- अपनी आंखें, नाक या मुंह को ना फूसे।
- सार्वजनिक स्थानों पर ना गूंगे।

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 ncv2019@gmail.com
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

Together we will fight COVID-19
रोजमर्रा की सभी वस्तुएं हर किसी के लिये हमेशा उपलब्ध हैं
घबराएं नहीं, भीड़ न लगाएं, जमाखोरी न करें

- बाजार, मेडिकल स्टोर, अस्पताल आदि कंपनियों पर कम से कम 1 मीटर की दूरी बनाए रखें।
- पैर्स रखें और अवरोधक सामान/चिकित्सा संबंधित सामानों की क्षीणित संयंत्र के साथ करें।
- किनारे/चिकित्सा सामग्री बंदरों के लिए बाहर-बाहर बाजार जाएं।
- अभियान के लिए हाय न मिलाएं और न ही गले लगाएं।
- घर पर अन्यवर्ग के लोगों की भीड़ जमा न करें।
- मेहमान नवाज़ी न करें या किसी दूसरे के घर पर न जाएं।

एक-दूसरे से उड़ी हमेशा बनाए रखें
यदि आप खसों, बुखार या डायलेक्टिक में काफी हैं जैसे लक्षण महसूस कर रहे हैं, तो कृपया आपकी मदद के लिए हैल्थ केमिटी के तहत तैयारी करें।

हमें मिलकर COVID-19 से लड़ना है

#mohfw.gov.in #MhFWIndia #MhF_INDIA #mohfwindia

COVID-19 संबंधित जानकारी के लिए
राष्ट्रीय समाज किक या व्यक्ति रूप से संक्रामक बीमारी के लिए भाग बुझाएं।

1075 (लोग से) 011-23978046, 022-22967700, 022-22967710, 022-22967720, 022-22967730, 022-22967740, 022-22967750, 022-22967760
ncov2019@gov.in, nccov2019@gmail.com
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 nationwide 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 biomedical waste**, to be disposed off through incineration.

• ULBs may refer MoHFW guidelines: [https://www.mohfw.gov.in/pdf/GuidelinesonrationaluseofPersonalProtectiveEquipment.pdf](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/PreventionandManagementofCOVID19FLWEnglish.pdf) and [https://www.mohfw.gov.in/pdf/PreventionandManagementofCOVID19FLWHindi.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.
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 1.
- 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.

<table>
<thead>
<tr>
<th>Areas</th>
<th>Agents / Toilet cleaner</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toilet pot/ commode</td>
<td>Sodium hypochlorite 1% detergent</td>
<td>• Inside of toilet pot/commode:</td>
</tr>
<tr>
<td></td>
<td>Soap powder / long handle angular brush</td>
<td>• Scrub with the recommended agents and the long handle angular brush.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Outside: clean with recommended agents; use a scrubber.</td>
</tr>
<tr>
<td>Lid/ commode</td>
<td>Nylon scrubber and soap powder/detergent</td>
<td>• Wet and scrub with soap powder and the nylon scrubber inside and outside.</td>
</tr>
<tr>
<td></td>
<td>1% Sodium Hypochlorite</td>
<td>• Wipe with 1% Sodium Hypochlorite</td>
</tr>
<tr>
<td>Toilet floor</td>
<td>Soap powder/detergent and scrubbing brush/ nylon broom</td>
<td>• Scrub floor with soap powder and the scrubbing brush</td>
</tr>
<tr>
<td></td>
<td>1% Sodium Hypochlorite</td>
<td>• Wash with water</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Use sodium hypochlorite 1% dilution</td>
</tr>
<tr>
<td>Sink</td>
<td>Soap powder / detergent and nylon scrubber</td>
<td>• Scrub with the nylon scrubber.</td>
</tr>
<tr>
<td></td>
<td>1% Sodium Hypochlorite</td>
<td>• Wipe with 1% sodium hypochlorite</td>
</tr>
<tr>
<td>Showers area / Taps and fittings</td>
<td>Warm water Detergent powder Nylon Scrubber 1% Sodium Hypochlorite/ 70% alcohol</td>
<td>• Thoroughly scrub the floors/tiles with warm water and detergent.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Wipe over taps and fittings with a damp cloth and detergent.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Care should be taken to clean the underside of taps and fittings.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Wipe with 1% sodium hypochlorite/ 70% alcohol</td>
</tr>
<tr>
<td>Soap dispensers</td>
<td>Detergent and water</td>
<td>• Should be cleaned daily with detergent and water and dried.</td>
</tr>
</tbody>
</table>

- 70% Alcohol can be used to wipe down surfaces where the use of bleach is not suitable, e.g. metal. (Chloroxyleneol (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

<table>
<thead>
<tr>
<th>Product</th>
<th>Available chlorine</th>
<th>1% percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hypochlorite – liquid bleach</td>
<td>3.5%</td>
<td>1 part bleach to 2.5 parts water</td>
</tr>
<tr>
<td>Sodium hypochlorite – liquid</td>
<td>5%</td>
<td>1 part bleach to 4 parts water</td>
</tr>
<tr>
<td>NaDCC (sodium dichloroisocyanurate) powder</td>
<td>60%</td>
<td>17 grams to 1 litre water</td>
</tr>
<tr>
<td>NaDCC (1.5 g/ tablet) – tablets</td>
<td>60%</td>
<td>11 tablets to 1 litre water</td>
</tr>
<tr>
<td>Chloramine – powder</td>
<td>25%</td>
<td>80 g to 1 litre water</td>
</tr>
<tr>
<td>Bleaching powder</td>
<td>70%</td>
<td>7 g to 1 litre water</td>
</tr>
<tr>
<td>Any other</td>
<td>As per manufacturer’s instructions</td>
<td></td>
</tr>
</tbody>
</table>
Hand-washing technique with soap and water:

1. Wet hands with water.
2. Apply enough soap to cover all hand surfaces.
3. Rub hands palm to palm.
4. Rub back of each hand with palm of other hand with fingers interlaced.
5. Rub palm to palm with fingers interlaced.
6. Rub with back of fingers to opposing palms with fingers interlocked.
7. Rub each thumb dapped in opposite hand using a rotational movement.
8. Rub tips of fingers in opposite palm in a circular motion.
9. Rub each wrist with opposite hand.
10. Rinse hands with water.
11. Use elbow to turn off tap.
12. 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.
PRACTITIONERS’ RESOURCES

Part B:
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

- 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 clothes 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:
  - Soap and water.
  - 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
समुदाय में सबसे पूर्वाधीन रोकथाम उपायों में निम्न शामिल हैं:

- अपने हाथों को अल्फाहाल-आधारित हैंड रब (हाथों पर रखने वाला टंका) या चाँदून और साफ पानी के साथ रकमकर नियमित ड्रू लेने पाए। ड्रू जाप्नहुँ सब बाद देखाई दें रहे हैं। ताबुन और फादी का इस्तेमाल करें।
- अपनी आंखें, नाक और मुंह को कुछे से बराबर।
- धारते या छूकरे समय अपना मुंह और नाक ठेट लें। दूध या कोहरी ड्राइर मुंह के सामने लगाकर खाइं। धारते और ठेट थक लें।

- यदि जाप्नू संबंधित कीमत तकराया है तो मेंहदी मस्तक पहने और मस्तक की एक सीमा के बाद जानने से भरोसा भरें।
- सबसे संबंधी कोण का जनसंख्या से (कम से कम 1 मीटर) दूरी बनाए रखें।
- बंधता नकार बाहर जाने से बच और टीम के बजे समुद्र से दूर रहें।
- यदि जाप अवस्था महसूस करता है तो घर पर रहें।
- चेहरे छुटे से बचने के लिए मोड़क फैसला का उपयोग करने समय हेफलें या एरोपान फैसला का उपयोग करें।

डीसलजनी ऑपरेटरों (डीएसओDSO) के लिए अच्छे अभ्यासों के सुझाव

- सुपरवी के आईडी कार्ड या अनुमति पत्र पर पूर्वाधारित करें और लॉकडाउन अवधि के दौरान आदेश-जाँच अनुसार सभी हिमाशा साथ रखें।
- काम के दौरान पहनें जाने वाले एवं द numérique दिन का दूरी बनाए रखने से पहले पहनें।
- डीसलजनी ऑपरेटर अपने शूटर के सही हिमाशा नियंत्रण, दृश्यांश, जूते और उपयुक्त फोर्म्स (उन लोगों आवश्यक वादशर, लंबा पतलून) का उपयोग करें।
- काम दे के डीसलजनी गाड़ी /वाहन में हैंड सेन्टिडाइजर और साफ हिमाशा रखने चाहिए।
- डीसलजनी करने समय, घरों के सदस्यों से (कम से कम 1 मीटर) दूरी बनाए रखें। बार-बार हैंड सेन्टिडिज़र का इस्तेमाल करें।

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डीस्ट्रक्ट ऑपरेटर (डीएसओDSO) के लिए अचूक अभ्यासों के सुझाव

कभी भी कस्टमर सेपटिक टैंक में प्रवेश न करें।

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डीस्ट्रक्ट ऑपरेटर (डीएसओDSO) के लिए अचूक अभ्यासों के सुझाव

सेपटिक टैंक से कीचड को खाली करने के बाद, कीटाणुशास्त्र का उपयोग करके पाझर को साफ करें और इसे ट्रक में वापस रखें। हाथ और कस्टमर भी सतह जैसे मल (फेकल) कीचड के संपर्क में आई हो उसे साबुन से अचूक तरह धोएं।

http://tnusssp.co.in/
• एलएसटीपीFSTP पहुँचने के बाद पाइप को फर्त होने से कानून करें, राशियाँ दालान की ओर भर तथा भर भर को डालें जना करने ही करें सुधार पर खाली करें।
• पहली गटिविधिका दौरान मल कीचड़ के संरक्षण से बचें। कीचड़ छालक अपूर्ण ही छालक अति पर चुल्ले और कौआनुक का उपयोग करके सतह को साफ करें।
• काम के दौरान मल कीचड़ के संपर्क में आने पर साफुन से हाय थायें।

http://tnussp.co.in/
व्यक्तिगत सुरक्षा उपकरण (पीपीईPPE)

1. कपड़े का मास्क
2. दस्ताने
3. हेड बैंड और रस्सी-ट्रैंकेट बैंड
4. पूरे पैर को ढकने वाले जूते / गांव बट

व्यक्तिगत सुरक्षा उपकरण (पीपीईPPE) इस्तेमाल करने का तरीका

1. नाक और मुंह को मास्क से ढके रखें और इलाजात्मक शैली को सरि और गर्म के पीछे बांटे रखें। हालाँकि, आगे देखते हुए, मास्क आज स्वतंत्र / रेस्यूपरर दूर्ज्यता होती है और यह नहीं है। इसारादिस्टिक या पैर को मोटे में पहनें और रुकाएं ताकि इससे हानि की गई बनिए सकिए।
2. दस्ताने पहनें और उन्हें कोई भी तक चढ़ा ना। दस्ताने के बाहर का भाग अनुकूलित होता है। दस्ताने को उठाएं और स्क्रीन के लिए दस्ताने पहने हुये दूसरे हाथ का उपयोग करें। दूसरा दस्ताना भी इसी तरीके से उठाएं।
3. अपने पैर को ढकने के लिए जूते पहनें। जूते को दस्ताने वाले हाथों से बचाएँ।

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हाथ की सफाई नम्म पाँच मौकों पर ज़रूर की जानी चाहिए

- व्यक्तिगत सुरक्षा उपकरण (पीपीई) पहनने से पहले और उसे उतारने के बाद, दस्ताने बदलने समय लगातार रखें।
- कसी भी शौचालय की सफाई या रखरखाव गतिविधियों के बाद रस्सी न भुनाएं।
- सांस से नकिनी कसी भी चीज़ के संपर्क में आने तक रखने से बचें।
- खाने से पहले और शौचालय का उपयोग करने के बाद हाथ परें।

http://tnussp.co.in/
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....

**Before leaving home for your work, you must**

1. Wear full sleeve and full-length clothes
2. Cover wounds with water-proof band-aid
3. Carry the Emergency pass issued by ULB
4. Carry water and soap to wash hands
5. Gloves, mask, apron (if mask is not available, then use a clean cloth in 2-3 layers to cover your nose and mouth)
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. Sit at opposite corners of the seats to maintain distance
5. Avoid touching your eyes, nose, and mouth and mask while wearing it
6. Carry water in the vehicle, soap/alcohol-based sanitizer

**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)**

1. Remove safety gears
2. Wash hands and face
3. Change clothes
4. Disinfect clothes safety and gears
5. Hang safety gears in sunny dry space
6. 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

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

- Clean frequently touched surfaces (such as valves, tools, pipes, rods, door handles, armrests, table tops, electrical switches and water taps) once every 2-4 hours with disinfectant.

Recommended good practices for FSTP Operators

- While receiving fecal sludge, conduct tests with extreme caution. Wash hands and any surface which accidentally comes in contact with fecal sludge.
- Wash hands after performing any task with possible exposure to fecal sludge.
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.

• Protect wounds from getting in contact with fecal sludge.
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
**सुरक्षिति कैसे रहें?**

रोकथाम और इसे कम करने के सामान्य उपाय

समुदाय में सबसे पूर्वाभावी रोकथाम उपायों में निम्न शामिल हैं:

- अपने हाथों को अल्कोहॉल-आधारित हैंड रब्बर (हाथों पर मलने
  वाले बाल तरल) या साफ़ पानी के साथ रक्षक
  नियमित उपयोग करें। यद्यपि जानवर हाथ गधे देखाई दे रहे हैं
  ताकि पानी और पानी का उपयोग देखा जा सके।
- अपनी आंखें, नाक और मुंह को छुपाने से बचें।
- खाते बा छींके समय अपना मूंह और नाक खुल लें। दवाएँ या
  फोन की भोजन से ही हो सकता है। जो मामलों के साथ सामने
  आने वाले वर्षा में रहें।

यद्यपि आपने योग्य उपचार संबंधी लक्षण हैं तो मेडिकल मास्क पहने
  और मास्क को ध्यान में रखें।
- यदि संवाहक लक्षणों के साथ साप्ताहिक की (कम से कम 1 मीटर)
  संवाहक 2 की अवस्था में रहें।
- व्यक्ति गतिविधि बाहर जाने से बचें और तेजी से बढ़े समूहों से दूर
  रहें।
- यदि जाप अस्थायी बनाएँ रखें, तो घर पर रहें।
- पेटिया दूरी से बचने के लिए मोबाइल पोल का उपयोग करें।
  सब भेड़ॉल या सुपरफास्ट फोन का उपयोग करें।

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**एफएसटीपी FSTP ऑपरेटरों के लिए
अच्छे अभ्यासों के सुझाव**

- दवा का काम शुरू करने से पहले, काम के दौरान पहने जाने वाले कपड़े,
  कपड़े बदलने वाले स्थान में पहने।
- सीटी / पीटी हैमागु मास्क, दर्दनाक, जूते और उपस्थित कपड़े
  (जैसे लंबी आस्तीन वाली शर्ट, लंबी पतलहरू)
  का उपयोग करें।
- सुनिश्चित करें की शौचालय परिसर में साफ़ हैंड सेन्टीजर उपलब्ध हैं
  और शौचालय उपयोगकर्ताओं
  को इसका उपयोग करने के लिए प्रोत्साहित करें।

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एफएसटीपी FSTP ऑपरेटर्स के लिए अचूक अभ्यासों के सुझाव

- बार-बार छुड़ू साले साथ ही (जैसे वालु, औजार, पाइप, छड़, दरवाजे के हेडल, आर्मरेस्ट, टेबल की सतह, इलेक्ट्रिक लिंक सुविधा और पानी के नल) की हटाना अति हर 2-4 घंटे में एक बार साफ करें।

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एफएसटीपी FSTP ऑपरेटर्स के लिए अचूक अभ्यासों के सुझाव

- भर (केंद्र) की चुड़ू तथा वालु, साखात्मक के साथ चांप करें। काम के दौरान भर की चुड़ू के संपर्क में आने पर लाया शाअ में साफ करें।

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एफएसटीपी FSTP ऑपरेटरों के लिए अच्छे अभ्यासों के सुझाव

गल कीचड़ के रसिक या चूलकने की सुरक्षा में, छलके कीचड़ पर चूले का पाउडर छड़कें और कौटाणुकास्तक का उपयोग करके सतह को साफ करें।

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एफएसटीपी FSTP ऑपरेटरों के लिए अच्छे अभ्यासों के सुझाव

• घारों को गल कीचड़ के संपर्क में आने से बचाएं!

http://tnussp.co.in/
एफएसटीपी FSTP ऑपरेटरों के लिए अच्छे अभ्यासों के सुझाव

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

- काम के दौरान इस्तेमाल करि जाने वाले कपड़े और दोबारा इस्तेमाल करि जाने वाले वाले त्वरकारण सुरक्षा उपकरण (पीपीई) को पानी के साथ कौटुंबिक मसूरकर अच्छी तरह से सफ करें।
- काम से पहले जाने से पहले कपड़े बदलने वाले सुधार पर अपने खुद के कपड़े पहन से।

http://tnuspp.co.in/
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 पूर्णता और लॉकडाउन अवधि के दौरान आते-जाते समय उन्हें हमेशा साथ रखें।

एफएसटीपी FSTP ऑपरेटरों के लिए सतर्क गतिविधियों के लिए सुझाव

• कर्मचारियों की सुवास्य स्थानीय नविनिति रूप से जाँच करें और यदि कोई में COVID के लक्षण दिखाई दे तो यूएलबी को रिपोर्ट करें। सुनिश्चित करें कि संक्रमण के लक्षणों वाले कोई भी कर्मचारी के लिए चेकिंगसे सहायता पूर्वांमा की जाए।
• सहकर्मियों को बीमार होने पर छुट्टी लेने के लिए प्रोत्साहित करें।
व्यक्तिगत सुरक्षा उपकरण (पीपीईPPE) का उपयोग करने का तरीका

1. नाक और मुंह को मास्क से ढक लें और इलाजक शैल को सर्दी और गर्मी के पीछे बांटें। हायरेस रहें: मास्क के अग्रें का हवा तोड़ने / रेस्त्रियों दूरी देने होते हैं उसे न छुकें। हायरेस या फॉटो को लीजिये से पहनें और रामें का हस्तिया छुए बनी नहीं बनाए दें।

2. दस्ताने पहने और उन्हें कोई नक्खिल ना पड़े। दस्ताने के बाहर का भाग दूरी होता है। दस्ताने को उनमें के बाहर दस्ताने पहने हुए दूसरे हाथ का उपयोग करें। दूसरा दस्ताने भी इसी तरीके से उतरें।

3. अपने पैरों को ढकने के लिए जूते पहनें। जूते को दस्ताने वाले हाथों से नहीं लीजिये।

http://tnussp.co.in/
हाथ की सफाई नमिन पाँच मौकों पर ज़रूर की जानी चाहिए

- व्यक्तिगत सुरक्षा उपकरण (पीपीई) पहनने से पहले और उसे उतारने के बाद, दस्ताने बदलने समय
- कपड़े भी शौचालय की सफाई या रखरखाव गतिविधियों के बाद
- सांस से नकली कपड़े भी चीज़ों के संपर्क में आने के बाद
- खाने से पहले
- शौचालय का उपयोग करने के बाद

http://tnussp.co.in/
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...

Before leaving home for your work, 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

When you reach the workplace, you must

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

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

- Maintain safe distance with co-workers, don’t sit together if possible
- Do not touch unnecessary objects
- Disinfect high touch surfaces – water taps, stair rails, door handles etc. once every 2-4 hours
- Collect sample with caution when receiving fecal sludge
- Wash eyes, nose, face in case waste touches
- Spillage of fecal matter to be sprinkled with lime powder and disinfected
- 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

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
Personal Protective Equipment for Sanitation Workers

When to use PPE?

Appropriate Combinations of PPE for various Sanitation Workers
When to use PPE?

Categories of PPE their details and when to use them?

**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.

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

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

**耳 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.

**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.

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
<table>
<thead>
<tr>
<th>HEAD PROTECTION</th>
<th>EAR PROTECTION</th>
<th>FACE PROTECTION</th>
<th>EYE PROTECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hard Hat</strong></td>
<td><strong>Ear Plugs</strong></td>
<td><strong>Face Shield</strong></td>
<td><strong>Safety Goggles</strong></td>
</tr>
<tr>
<td>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.</td>
<td>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.</td>
<td>Face shield made out of clear Polycarbonate having size 8.0&quot; x 15.5&quot; and thickness of 1.0 mm. The shield should be compatible with the safety hard hat.</td>
<td>Safety goggles must be light weight made out of clear Polycarbonate material offering high impact resistance and 99.9% UV protection.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LUNG PROTECTION</th>
<th>HAND PROTECTION</th>
<th>HAND PROTECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N 95 Face Mask</strong></td>
<td><strong>Mechanical Resistant Gloves</strong></td>
<td><strong>Chemical Resistant Gloves</strong></td>
</tr>
<tr>
<td>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.</td>
<td>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.</td>
<td>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.</td>
</tr>
<tr>
<td>BODY PROTECTION</td>
<td>BODY PROTECTION</td>
<td>FOOT PROTECTION</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td><strong>Full Sleeves Shirt</strong></td>
<td><strong>Full Length Pants</strong></td>
<td><strong>Protective Footwear</strong></td>
</tr>
<tr>
<td>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.</td>
<td>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.</td>
<td>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.</td>
</tr>
</tbody>
</table>

**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**

**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.
- **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.

**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.
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
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
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.

Appropriate Combination of PPE
Sanitation Workers in House Keeping
Housekeeping staff involved in cleaning of washrooms
**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.

**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.

**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.

**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.
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.

**Hard Hat**
- Hard Hat with shell made out of Polypropylene Copolymer with headband, harness, sweatband, peak and chinstrap
- Recommend for use in case of physical hazard from falling object or when working at height.

**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 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.

**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.
**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

**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

**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

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

**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.

**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.
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.

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.

Appropriate Combination of PPE

Sanitation Workers in Solid Waste Management

Sweepers involved in sweeping and cleaning of streets
**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.

**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.

**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.

**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.

**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.

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

**When you start your work, follow these steps…**

1. Blow horn to open the gate
2. Keep distance of minimum 4 feet from citizens
3. Ask citizens to throw their waste directly in the vehicle/ your bin
4. Do not touch dustbins and waste with bare hands
5. Do not collect waste from a quarantined household unless you are informed by the municipality
6. Ask citizens to dispose used masks and gloves in a separate bag
7. Use sheet/pan to pick up littered waste
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

**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
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 |
| 2. | Cover wounds with water-proof band-aid |
| 3. | Carry the Emergency pass issued by ULB |
| 4. | Carry water and soap to wash hands |
| 5. | Gloves, mask, apron (if mask is not available, then use a clean cloth in 2-3 layers to cover your nose and mouth) |
| 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 |
| 2. | Keep distance of minimum 4 feet from citizens |
| 3. | Ask citizens to throw their waste directly in the vehicle/your bin |
| 4. | Do not touch dustbins and waste with bare hands |
| 5. | Do not collect waste from a quarantined household unless you are informed by the municipality |
| 6. | Wash eyes, nose, face in case waste touches |
| 7. | Use sheet/pan to pick up littered waste |
| 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

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

**Let’s conquer the virus by ensuring our safety**
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.

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 return to your work base (ward office)

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

Let’s conquer the virus by ensuring our safety

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

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

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

**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

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

### When you reach the workplace, you must

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

### When you finish your work

1. Remove safety gears
2. Wash hands and face
3. Change clothes and put all in a bag
4. Wear mask/cloth and return to home
5. 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

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12. Handwashing steps Poster by WaterAid

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 simples steps! Protect yourself and your family from Coronavirus and COVID-19, and keep healthy.
कोरोना-वायरस व अन्य बीमारियों से हम स्वास्थ्य को, अपने परिवार को एवं अपने समुदाय को स्वस्थ और सुरक्षित रख सकते हैं, अगर हम अपने हाथों को साफ एवं पानी से चरणबद्ध तरीके से धोए । 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 हथीलियों में साफ लगाएं।
2. अब अपने हथिलियों को आपस में मर्जे, ताकि झाग बन सके।
3. पहले हथिलियों के धारियों के ऊपर, उसके बाद पीछे, उंगलियों के बीच में, औंगठों के चारों ओर एवं नाखुबों के नीचे एवं अंदर के हिस्से को, कम से कम 20 सेकेंड तक अच्छे से मर्जे।
4. इसके बाद साफ पानी से अपने हाथों को अच्छी तरह से धो लें। अंत में, एक साफ तैलिया या हवा का उपयोग करके अपने हाथों को सूखा लें।

याद रखें:
मांगी जारे आप जब भी हाथ धों, साफुन 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।
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

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

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

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

शाही तरीके से हाथ धोएं

जब हम सापन 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।

आपूर्ति जानें कब तक हाथों को साफ एवं पानी से धोना जरूरी है?

पहले

खाना बनाने से पहले
खाना खाने से पहले
बच्चों को खिलाने से पहले

छीनने, खासी एवं नाक साफ करने के बाद।
ऐसे व्यक्ति के संपर्क में आने के बाद, जो संक्रमित हो या जिसमें सुधार, खासी, या सदस्य के लक्षण हों

शीतल्य का उपयोग करने एवं बच्चों के मल निपटाने के बाद

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

याद रखें:
परिवार और समुदाय के सभी व्यक्ति को इन जरूरी समय (क्यू) पर सापन और पानी से अच्छी तरह से हाथ धोना चाहिए- यह वह बच्चों हों, बालकों हों, बालिकाओं हों, पुरुषों हों, महिलाओं हों, प्रेमियों हों, लक्ष्यदाता हों, बिजनेस अर्थियों हों या सफाई-कर्मचारी हों।
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 clothes 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

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.

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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.
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.

- 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.

After this, wash the gloves you wore using disinfectant. Wash your hands with water and soap up to your elbows.
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.

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 UI.B.
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

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सुरक्षित कैसे रहें?
रोकथाम और इसे कम करने के सामान्य उपाय

सामुदायिक में सबसे प्रमुख रोकथाम उपायों में निम्न शामिल हैं:
• अपने हाथ को अलस्टॉइल-आपार्डात है वह (हाथ पर मली वाला तक) या साफ़ और साफ़ पानी के साथ रुकावट निवारित रूप से धोएँ। यदि आपने हाथ में दाढ़ी / दाढ़ी दिखाई दी तो तापमान और पानी का इस्तेमाल करें।
• अपनी आंखों, मांस और मूँ को पूर्ण बनाएँ।
• बालक या बालिका के समय अपना मुंह और नाक करें। दस्तिया या कोहरी मोक्कर मुंह के सामने साफ़ करें।
• यदि आपने तूफान लापरसी त्वचा है तो मीडिकल नास्फूल पहनें और नास्फूल को कंकर के बाद साफ़ से हाथ धोएँ।
• तूफान में लापरसी के बाद अधिकांश नमक से (कम से कम 1 मीटर) रूकावट दूर करें।
• बुनियादी गतिविधियां नामक बारे में भविष्य के बारे में समझ लें।
• यदि आप अनुसूचित माहूस करते हैं तो घर पर रहें।
• चंद्र पूजा दिन के बाद मोबाइल फोन का उपयोग करें।

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रक्षा कार्यकर्ताओं (सौंदर्य वर्कर) के लिए सीटी / पीटी में अच्छे अभ्यास के सुझाव

• दिन का काम शुरू करने से पहले काम के कपड़े, कपड़े बदलने वाले स्थान में पहने जाने चाहिए। सीटी / पीटी पार्कर में ड्राश्च मास्क, दस्ताने, जूते और उपयुक्त कपड़े (जैसे लब्बी अस्ट्रीज वाली घाटे, लब्बी पतवार और घाल) का उपयोग करें।

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स्वच्छता कार्यकर्ताओं (सेनिटरी वर्कर्स) के लिए सीटी / पीटी में अच्छे अभ्यासों के सुझाव

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

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- प्रत्येक उपयोगकर्ता से फोंस लेने वाले काउंटर पर उपयोगकर्ताओं से कम से कम 1 मीटर की दूरी बनाए रखने के लिए किसी चीज जैसे रुकावट बनाएं।
- प्रत्येक उपयोगकर्ता की आयात में शारीरिक दूरी (कम से कम 1 मीटर) बनाए रखनी चाहिए और उपयोग के बाद शौचालय को ठोकर से साफ करना चाहिए।

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• बार-बार कुहुई जाने वाली सतहें (दरवाजे के हैंडल, आमरस्ट, टेबल टॉप, लॉइट स्विच, पानी के नल) को बार-बार (हर 2-4 घंटे में एक बार) कीटालुकाशक के साथ साफ करें।

• शौचालय के कटोरे को हर दिन कम से कम दो से तीन बार साफ करें। उपयोग के आधार पर अधिक बार साफ।
• दस्ताने पहनने, शौचालय में गीले कपड़े और कीटाणुनाशक के साथ, दरवाजे के हंडल, नल, फवारा, शीतोश्य और सादूनदानी (सोप डिस्पेरस) की साफू (विस्फोटित) करें।
• सफाई का कपड़ा कपड़े धोने वाली बैठली में रखें।

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शौचालय परिसर और सीटी / पीटी में कटोरे की सफाई अभ्यास के लिए सुझाव

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

• उपकरण और दस्ताने और साथ ही उनके डब्बों को पानी और कीटाणुमारक क्लीनर से धींदे और साफ करें। कर्ष की सफाई के उपकरण और क्लीनर कंटेनरों की झुई जाने वाली सतहों को कीटाणुमारक से साफ करें।

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• इसके बाद, आपने जो दस्ताने पहने हैं उनको कीटाणुमारक के साथ धींदे और साफ करें। पानी और साबून से अपने हाथ अपनी काहनी तक धोएं।
शौचालय परिसर और सीटी / पीटी में कट्टों की सफाई अभ्यास के लिए सुझाव

• कस्म वाले कपड़ों को कार्यस्थल पर कीटावरणक के साथ धौया जाना चाहिए।

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

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शौचालय परिसर और सीटी / पीटी में कट्टों की सफाई अभ्यास के लिए सुझाव

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

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स्वच्छता कार्यकर्ताओं (सैनिटर वर्कर्स) के लिए सीटी / पीटी में अच्छे अभ्यासों के सुझाव

व्यक्तिगत सुरक्षा उपकरण (पीपीई)
- कपड़े का मास्क
- दस्ताने
- हेड बैंड और रिस्ट बैंड
- पूरे पैर को ढकने वाले जूते / गम बुट

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व्यक्तिगत सुरक्षा उपकरण (पीपीई) प्रभावात्मक करने का तरीका
1. नाक और मुंह को मास्क से भंड न और इलाजकर्ता को स्वयं से नियंत्रित ना। इसके वजह गर्म, दम, पीर वस्तु तथा मास्क की तापमान / रेसिपिटर दृष्टि होता है उसे न सुनिए। इससे दिखाई या फॉर्म को लीने से फ्लैकिया और नायर का हास्य और उसके बचित्र होने का विषय।

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2. दस्ताने पहने और उन्हें कोई तक चढ़ा न। दस्ताने तक धारण का आधार दृष्टि होता है। दस्ताने की उपलब्धता के लिए दस्ताने पहने दुर्से हाथ का उपयोग करते हैं, दुर्से दस्ताना भी इसी तरीके से अपने।

3. अपने पैर को ढकने के लिए जूते पहनें। जूते खींचकर दस्ताने वाले हाथों से लिखाई दें।
हाथ की सफाई निम्न पाँच मौकों पर ज़रूर की जानी चाहिए

- व्यक्तिगत सुरक्षा उपकरण (पीपीई) पहनने से पहले और उसे उतारने के बाद, दस्ताने बदलने 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
18. Social distancing at CT pictures

Source: Centre for Water and Sanitation (CWAS). CEPT University, Ahmedabad
Source: Centre for Water and Sanitation (CWASI), CEPT University, Ahmedabad
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 impacts upon human health and the economy 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 areas, schools, marketplaces, 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 - 'SafaiYodhas' 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 risk. 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 the risks involved is tabled below so that the ULBs and agencies identify, purchase and utilise the proactive gears in a best possible manner. An initial assessment of sanitation workers activities, hazardous events and associated severity of risk are identified arbitrary by many journals. Any more activities that are state and ULB specific, may be added or removed from this list.

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

Planning at state level should factor in the following priorities:

<table>
<thead>
<tr>
<th>Priority Tasks and Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

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:

- Protective gear must be disinfected, washed and sun dried as per guidelines issued by Govt from time to time.
- Based on the current circumstances and to ensure uninterrupted service, the items can be procured for next few months phase wise.
- For disinfection purpose Sodium Hypochlorite solution (1%) can be considered or any other material designated by the national/state govt.
- For temporary storage of Bio Medical Waste (BMW) yellow colored garbage bags can 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 Don’t’s to be practiced while performing their duties and extending necessary support to them.
- For transportation of BMW to Common Biomedical Waste Treatment Facility, Light Commercial Vehicles can be considered which can be easily maneuvered through narrow roads.

4. Budget Templates for estimating cost for protective gear and essential items

For the benefit of ULBS, NIUA has come up with a DIY Budget Template toolkit for the purpose of estimating the budget for procuring protective gear and other essential items during COVID-19 pandemic. When the required data is entered in the toolkit, the budget estimate is calculated and presented the last table. The toolkit along with the calculation can also be printed. The excel based toolkit can be downloaded here https://drive.google.com/file/d/1TGxDSreE07t4LA3l17crQzLWFA02OhhT/view?usp=sharing. The process in the toolkit is explained below. And budget calculation for a sample town is provided in Annexure I.

Step 1 Fill the following details

<table>
<thead>
<tr>
<th>Date</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of the ULB</td>
<td></td>
</tr>
<tr>
<td>Name of the State</td>
<td></td>
</tr>
<tr>
<td>Name of Contact person</td>
<td></td>
</tr>
<tr>
<td>Designation</td>
<td></td>
</tr>
<tr>
<td>Email ID</td>
<td></td>
</tr>
<tr>
<td>Contact no.</td>
<td></td>
</tr>
<tr>
<td>Current Population of the ULB</td>
<td></td>
</tr>
<tr>
<td>No. of months for which Budget is to be estimated(n)</td>
<td></td>
</tr>
</tbody>
</table>
Step 2 Kindly enter the breakup of no. of Sanitary Workers/Allied workers in each category (ignore if the particular category is not applicable for your ULB)

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Category</th>
<th>Estimated number of sanitary workers/allied workers requiring protective gear</th>
<th>Protective Gear requirement as per GoI advisories and guidelines</th>
<th>Relevant government guideline/advisory</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sanitary workers involved in handling and collection of waste from houses of people under self-quarantine</td>
<td></td>
<td>Triple layer masks, Aprons, Nitrile gloves and Safety goggles</td>
<td>Guidelines for waste disposed from quarantine facilities, CPCB, MoEFCC and Advisory for Health and Safety of Sanitation Workers during COVID-19 by MoSJE</td>
</tr>
<tr>
<td>2</td>
<td>Sanitary Workers involved in Cleaning of CTs and PTs</td>
<td></td>
<td>Triple layer masks, Aprons, Gum boots and Nitrile gloves</td>
<td>Guidelines on disinfection of common public places including offices by MoHFW and Advisory for Health and Safety of Sanitation Workers during COVID-19 by MoSJE</td>
</tr>
<tr>
<td>3</td>
<td>Sanitary workers collecting waste from regular households</td>
<td></td>
<td>Triple layer masks, Aprons, Gum boots and Nitrile gloves</td>
<td>Additional advisory for maintaining cleanliness during lockdown period by MoHUA and Advisory for Health and Safety of Sanitation Workers during COVID-19 by MoSJE</td>
</tr>
<tr>
<td>4</td>
<td>Street sweepers and drain cleaners</td>
<td></td>
<td>Triple layer masks, Aprons, Gum boots and Nitrile gloves</td>
<td>Guidelines on disinfection of common public places including offices by MoHFW and Advisory for Health and Safety of Sanitation Workers during COVID-19 by MoSJE</td>
</tr>
<tr>
<td>5</td>
<td>Desludging operators</td>
<td></td>
<td>Triple layer masks, Nitrile Gloves, Aprons, Gum boots</td>
<td>Advisory on safe management of water supply and sanitation services during COVID-19 crisis by MoHUA</td>
</tr>
<tr>
<td>6</td>
<td>Workers employed at STP/FSTP</td>
<td></td>
<td>Triple layer masks, Nitrile Gloves, Aprons, Gum boots, Safety goggles</td>
<td>Advisory on safe management of water supply and sanitation services during COVID-19 crisis by MoHUA</td>
</tr>
<tr>
<td>7</td>
<td>Sanitary workers in COVID-19 Hospitals and all other Healthcare</td>
<td></td>
<td>N95 Mask, Nitrile gloves</td>
<td>Guidelines for rational use of PPE by MoHFW</td>
</tr>
<tr>
<td>8</td>
<td>Sanitary workers involved in cleaning quarantine centres</td>
<td></td>
<td>Triple layer masks, Nitrile gloves</td>
<td>Guidelines for rational use of PPE by MoHFW</td>
</tr>
<tr>
<td>9</td>
<td>Workers at Common Biomedical Waste Treatment Facility (CBWTF)</td>
<td></td>
<td>Triple layer masks, Aprons, Nitrile gloves, Gum boots and Safety goggles</td>
<td>Guidelines for waste disposed from quarantine facilities, CPCB, MoEFCC</td>
</tr>
<tr>
<td></td>
<td>Total no. of Sanitary and allied workers to be given protective gear</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total no. of Sanitary and allied workers to be given protective gear: **138**
Step 3 Kindly enter the specification, quantity requirement (in per person per month) and rates of the protective gear mentioned below as per their market/manufacturer available.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>List of consumables</th>
<th>Enter the specifications</th>
<th>Enter the required number of pieces/pairs per person per month *</th>
<th>Rate in Rs/item **</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N95 face mask</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Triple layer masks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Chemical resistant Nitrile gloves</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S. No.</th>
<th>List of non-consumables</th>
<th>Enter the specifications</th>
<th>Enter the required number of pieces/pairs per person per month *</th>
<th>Rate in Rs/item **</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gum boots</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Safety Goggles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Aprons</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*For eg. for mask you can go for single use surgical mask (30 masks required in 30 days) or multiple use N95 mask (one mask for 30 days). **Rates can be found here on GEM portal [https://gem.gov.in/](https://gem.gov.in/). For certified PPE manufacturers visit [http://texmin.nic.in/covid/certificates.php](http://texmin.nic.in/covid/certificates.php).
Step 4 Enter the numbers/quantity along with rates of other essential items required. If something is left out, kindly add them along with their required quantities and rates. Kindly leave the cell empty, if not applicable.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>List of consumables</th>
<th>Enter the quantity required per month</th>
<th>Rate in Rs. *</th>
<th>Amount in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yellow garbage bags for infectious waste storage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Disinfectant (Sodium Hypochlorite solution 1L)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Bleaching powder (1kg)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Anything else</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Anything else</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S. No.</th>
<th>List of non-consumables</th>
<th>Enter the quantity required</th>
<th>Rate in Rs. *</th>
<th>Amount in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Light Commercial Vehicle for transporting Biomedical waste</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Handwashing units</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Digital Contactless Infrared</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Anything else</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Anything else</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Rates can be found here on GEM portal https://gem.gov.in/

**Total Budget**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Budget estimation</th>
<th>Rate in Rs. lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>For Essential protective gear alone for the given number of months</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>For Essential protective gear and essential items for the given number of months</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>For Essential protective gear alone for 1 year</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>For Essential protective gear and essential items for 1 year</td>
<td></td>
</tr>
</tbody>
</table>
### Annexure I

**Step 1** Fill the following details

<table>
<thead>
<tr>
<th>Date</th>
<th>29/05/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of the ULB</td>
<td>Devprayag Nagar Palika</td>
</tr>
<tr>
<td>Name of the State</td>
<td>Uttarakhand</td>
</tr>
<tr>
<td>Name of Contact person</td>
<td>Ms. X</td>
</tr>
<tr>
<td>Designation</td>
<td>Chairperson</td>
</tr>
<tr>
<td>Email ID</td>
<td><a href="mailto:X@gmail.com">X@gmail.com</a></td>
</tr>
<tr>
<td>Contact no.</td>
<td>(+91)</td>
</tr>
<tr>
<td>Current Population of the ULB</td>
<td>5000</td>
</tr>
<tr>
<td>No. of months for which Budget is to be estimated(n)</td>
<td>6</td>
</tr>
</tbody>
</table>

**Step 2** Kindly enter the breakup of no. of Sanitary Workers/Allied workers in each category (ignore if the particular category is not applicable for your ULB)

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Category</th>
<th>Estimated number of sanitary workers/allied workers requiring protective gear</th>
<th>Protective Gear requirement as per GoI advisories and guidelines</th>
<th>Relevant government guideline/advisory</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sanitary workers involved in handling and collection of waste from houses of people under self quarantine</td>
<td>20</td>
<td>Triple layer masks, Aprons, Nitrile gloves, Gum boots and Safety goggles</td>
<td>Guidelines for waste disposed from quarantine facilities, CPCB, MoEFCC and Advisory for Health and Safety of Sanitation Workers during COVID-19 by MoSJE</td>
</tr>
<tr>
<td>2</td>
<td>Sanitary Workers involved in Cleaning of CTS and PTs</td>
<td>10</td>
<td>Triple layer masks, Aprons, Gum boots and Nitrile gloves</td>
<td>Guidelines on disinfection of common public places including offices by MoHFW and Advisory for Health and Safety of Sanitation Workers during COVID-19 by MoSJE</td>
</tr>
<tr>
<td>3</td>
<td>Sanitary workers collecting waste from regular households</td>
<td>50</td>
<td>Triple layer masks, Aprons, Gum boots and Nitrile gloves</td>
<td>Additional advisory for maintaining cleanliness during lockdown period by MoHUA and Advisory for Health and Safety of Sanitation Workers during COVID-19 by MoSJE</td>
</tr>
<tr>
<td>4</td>
<td>Street sweepers and drain cleaners</td>
<td>20</td>
<td>Triple layer masks, Aprons, Gum boots and Nitrile gloves</td>
<td>Guidelines on disinfection of common public places including offices by MoHFW and Advisory for Health and Safety of Sanitation Workers during COVID-19 by MoSJE</td>
</tr>
<tr>
<td>5</td>
<td>Desludging operators</td>
<td>2</td>
<td>Triple layer masks, Nitrile Gloves, Aprons, Gum boots</td>
<td>Advisory on safe management of water supply and sanitation services during COVID-19 crisis by MoHUA</td>
</tr>
<tr>
<td>6</td>
<td>Workers employed at STP/FSTP</td>
<td>4</td>
<td>Triple layer masks, Nitrile Gloves, Aprons, Gum boots, Safety goggles</td>
<td>Advisory on safe management of water supply and sanitation services during COVID-19 crisis by MoHUA</td>
</tr>
<tr>
<td>7</td>
<td>Sanitary workers in COVID-19 Hospitals and all other Healthcare</td>
<td>10</td>
<td>N95 Mask, Nitrile gloves</td>
<td>Guidelines for rational use of PPE by MoHFW</td>
</tr>
<tr>
<td>S. No.</td>
<td>Category</td>
<td>Estimated number of sanitary workers/allied workers requiring protective gear</td>
<td>Protective Gear requirement as per GoI advisories and guidelines</td>
<td>Relevant government guideline/advisory</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>8</td>
<td>Sanitary workers involved in cleaning quarantine centres</td>
<td>5</td>
<td>Triple layer masks, Nitrile gloves</td>
<td>Guidelines for rational use of PPE by MoHFW</td>
</tr>
<tr>
<td>9</td>
<td>Workers at Common Biomedical Waste Treatment Facility (CBWTF)</td>
<td>0</td>
<td>Triple layer masks, Aprons, Nitrile gloves, Gum boots and Safety goggles</td>
<td>Guidelines for waste disposed from quarantine facilities, CPCB, MoEFCC</td>
</tr>
<tr>
<td></td>
<td>Total no. of Sanitary and allied workers to be given we protective gear</td>
<td>121</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Step 3 Kindly enter the specification, quantity requirement (in per person per month) and rates of the protective gear mentioned below as per their market/manufacturer available.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>List of consumables</th>
<th>Enter the specifications</th>
<th>Enter the required number of pieces/pairs per person per month *</th>
<th>Rate in Rs/item **</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N95 face mask</td>
<td></td>
<td>5</td>
<td>130</td>
</tr>
<tr>
<td>2</td>
<td>Triple layer masks</td>
<td></td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>3</td>
<td>Chemical resistant Nitrile gloves</td>
<td></td>
<td>3</td>
<td>50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S. No.</th>
<th>List of non-consumables</th>
<th>Enter the specifications</th>
<th>Enter the required number of pieces/pairs per person per month *</th>
<th>Rate in Rs/item **</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gum boots</td>
<td></td>
<td>1</td>
<td>300</td>
</tr>
<tr>
<td>2</td>
<td>Safety Goggles</td>
<td></td>
<td>1</td>
<td>80</td>
</tr>
<tr>
<td>3</td>
<td>Aprons</td>
<td></td>
<td>3</td>
<td>150</td>
</tr>
</tbody>
</table>

*For eg. for mask you can go for single use surgical mask (30 masks required in 30 days) or multiple use N95 mask (one mask for 30 days). **Rates can be found here on GEM portal https://gem.gov.in/ . For certified PPE manufacturers visit http://texmin.nic.in/covid/certificates.php .
Step 4 Enter the numbers/quantity along with rates of other essential items required. If something is left out, kindly add them along with their required quantities and rates. Kindly leave the cell empty, if not applicable.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>List of consumables</th>
<th>Enter the quantity required per month</th>
<th>Rate in Rs.</th>
<th>Amount in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yellow garbage bags for infectious waste storage</td>
<td>500</td>
<td>2</td>
<td>1000</td>
</tr>
<tr>
<td>2</td>
<td>Disinfectant (Sodium Hypochlorite solution 1l)</td>
<td>50</td>
<td>50</td>
<td>2500</td>
</tr>
<tr>
<td>3</td>
<td>Bleaching powder (1kg)</td>
<td>50</td>
<td>50</td>
<td>2500</td>
</tr>
<tr>
<td>4</td>
<td>Anything else</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Anything else</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>6000</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S. No.</th>
<th>List of non-consumables</th>
<th>Enter the quantity required</th>
<th>Rate in Rs.</th>
<th>Amount in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Light Commercial Vehicle for transporting Biomedical waste</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Handwashing units</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Digital Contactless Infrared</td>
<td>10</td>
<td>3000</td>
<td>30000</td>
</tr>
<tr>
<td>4</td>
<td>Anything else</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Anything else</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>30000</strong></td>
</tr>
</tbody>
</table>

*Rates can be found here on GEM portal [https://gem.gov.in/](https://gem.gov.in/)

**Total Budget**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Budget estimation</th>
<th>Rate in Rs. lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>For Essential protective gear alone for the given number of months</td>
<td>2.98</td>
</tr>
<tr>
<td>2</td>
<td>For Essential protective gear and essential items for the given number of months</td>
<td>3.64</td>
</tr>
<tr>
<td>3</td>
<td>For Essential protective gear alone for 1 year</td>
<td>5.45</td>
</tr>
<tr>
<td>4</td>
<td>For Essential protective gear and essential items for 1 year</td>
<td>6.47</td>
</tr>
</tbody>
</table>

The total amount required for procuring the protective gears is 6.47 lakhs.
## Annexure II

### List of Vendors for Protective Gear

<table>
<thead>
<tr>
<th>SR. NO.</th>
<th>NAME OF COMPANY</th>
<th>LOCAL/ INTERNATIONAL</th>
<th>ADDRESS</th>
<th>CONTACT DETAILS</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cabson Enterprises</td>
<td>Dealer of 3M, HONEYWELL, JCB, TIGER &amp; WORKTOES and has manufactured the PPEs with S1 and SPARTAN brands (Local)</td>
<td>5-1-526, Hill Street, Ganji Complex 2nd Floor, Ranigunj, Secunderabad - 500 003</td>
<td>040-6453 9461, 09949601427</td>
<td><a href="mailto:sarah.enterprises@rediffmail.com">sarah.enterprises@rediffmail.com</a></td>
</tr>
<tr>
<td>2</td>
<td>Karam</td>
<td>Indian Manufacturer</td>
<td>T-19 Towers, Block 2, Unit 901, 9th Floor, Karbala Maidan,Besides Ranigunj Bus Depot, Ranigunj, Secunderabad- 500 003 Telangana</td>
<td>040-27807675, 09985953535</td>
<td><a href="mailto:karam@karam.in">karam@karam.in</a></td>
</tr>
<tr>
<td>3</td>
<td>Unique Industrials</td>
<td>Indian Manufacturer / Local</td>
<td>5-1-570, Hill Street, Ranigunj, Hyderabad-500003, Telangana (India)</td>
<td>8037304413</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Mallcom</td>
<td>Indian Manufacturer</td>
<td>EN-12, Sector-V, Salt Lake Kolkata 700 091</td>
<td>033-40161000</td>
<td><a href="mailto:sales@mallcom.in">sales@mallcom.in</a></td>
</tr>
<tr>
<td>5</td>
<td>Udyogi</td>
<td>Indian Manufacturer</td>
<td>294, B.B.Ganguly Street, 2nd Floor, Kolkata-700 012</td>
<td>033-2225-1470, 033-2225-1471, 033 2225-1472</td>
<td><a href="mailto:info@udyogi.net">info@udyogi.net</a></td>
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<tr>
<td>6</td>
<td>Safewell</td>
<td>Indian Manufacturer / Local</td>
<td>BP-7, Suit No. 504, 5th Floor, Ecostation, Sec-V, Salt Lake City, Kolkata - 700091, India</td>
<td>033-23674444</td>
<td><a href="mailto:kolkata@acmesafety.in">kolkata@acmesafety.in</a></td>
</tr>
<tr>
<td>7</td>
<td>Venus Safety and Health Pvt. Ltd.</td>
<td>Indian Manufacturer / Local</td>
<td>L75/76,Tondre village, MIDC, Taloja, Maharashtra, 410208.</td>
<td>022-27410018</td>
<td><a href="mailto:info@venusohs.com">info@venusohs.com</a></td>
</tr>
<tr>
<td>8</td>
<td>3M India Ltd</td>
<td>International Manufacturer - India Office</td>
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<td>9</td>
<td>DuPont India Pvt Ltd.</td>
<td>International Manufacturer - India Office</td>
<td>ICICI Knowledge Park, Genome Valley, Survey No.542/2, DS -9 Turkapally(Village), Shameerpet (Mandal), Ranga Reddy(District), Hyderabad-500078 (Andhra Pradesh)</td>
<td>040-66247000</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Honeywell Safety India</td>
<td>International Manufacturer - India Office</td>
<td>5th Floor, Unitech Trade Center, Sector 43, Block-C, Sushant Lok, Phase-1, Gurgaon 122002, Haryana</td>
<td>0124-4975000</td>
<td><a href="mailto:hsp-india@honeywell.com">hsp-india@honeywell.com</a></td>
</tr>
<tr>
<td>No.</td>
<td>Company Name</td>
<td>Type of Company</td>
<td>Address</td>
<td>Phone Number</td>
<td>Email Address</td>
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<td>11</td>
<td>Jayco Safety Products Pvt. Ltd.</td>
<td>Indian Manufacturer / Local</td>
<td>125, Neha Industrial Estate, Dattapada Cross Road, Near Su Swagat Restaurant, Borivali(East), Mumbai - 400066.</td>
<td>022-49791200</td>
<td><a href="mailto:info@jaycosafety.com">info@jaycosafety.com</a></td>
</tr>
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<td></td>
<td>82/84, 2nd Floor, Above Satkar Hotel, Masjid Bunder, Mumbai - 40003.</td>
<td>022-23456395</td>
<td><a href="mailto:mumbai@jaycosafety.com">mumbai@jaycosafety.com</a></td>
</tr>
<tr>
<td>12</td>
<td>Uviraj Global Private Limited</td>
<td>Indian Manufacturer / Local</td>
<td>S 17-18, Panki Industrial Area, Site-IV, Kanpur, Uttar Pradesh, 208022</td>
<td>0512-2690031, 0032</td>
<td><a href="mailto:sales@uviraj.com">sales@uviraj.com</a>, <a href="mailto:support@uviraj.com">support@uviraj.com</a>, <a href="mailto:enquiry@uviraj.com">enquiry@uviraj.com</a></td>
</tr>
<tr>
<td>13</td>
<td>Neo Safety Products Pvt. Ltd.</td>
<td>Indian Manufacturer / Local</td>
<td>23, N.S. Road, 6 Commercial Building 1st Floor, Kolkata - 700 001, India.</td>
<td>09836582791, 033-22421664</td>
<td><a href="mailto:sales@neosafety.in">sales@neosafety.in</a></td>
</tr>
<tr>
<td>14</td>
<td>Sairam Safety Engineers</td>
<td>Local Dealer</td>
<td>Safety House, Plot no 55, Malany Colony, New Bowenpally Road, Secunderabad, Telangana</td>
<td>040-42300068</td>
<td><a href="mailto:info@sairamsafety.com">info@sairamsafety.com</a></td>
</tr>
<tr>
<td>15</td>
<td>Hi-Tech Surgical Company</td>
<td>Local Dealer</td>
<td>A-37, DSIIDC, Engineering Complex, Mangolpuri Industrial Area, Phase 1, Delhi 110083</td>
<td>9891116766</td>
<td><a href="mailto:sales@htscindia.com">sales@htscindia.com</a></td>
</tr>
<tr>
<td>16</td>
<td>Alko Plus Technosafe Pvt. Ltd.</td>
<td>Indian Manufacturer / Local</td>
<td>Plot No. 69 - 70, Sector 17, HSIIDC Industrial Estate, Bahadurgarh, Haryana - 124507</td>
<td>9811000742</td>
<td><a href="mailto:info@alkoplus.com">info@alkoplus.com</a></td>
</tr>
<tr>
<td>17</td>
<td>Unicare Emergency Equipments Pvt. Ltd.</td>
<td>Indian Manufacturer / Local</td>
<td>Leslico House, 2nd Floor, Prof. V. S. Agashe Road, Dadar (W), Mumbai - 400028 (India)</td>
<td>022-2422 7198 / 1878 /1880</td>
<td><a href="mailto:mumbai@unicaremail.com">mumbai@unicaremail.com</a></td>
</tr>
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</table>

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