

**HIGHER EDUCATION DEVELOPMENT IN PAKISTAN**  
**(HEDP) (P161386)**  
**COVID-19 Emergency Response**  
**Managing Environmental, Occupational Health and Safety Risks**  
**CHECKLISTS**

*(to be attached with HEDP ESMF as an addendum/annex)*

**General Procedures to be adapted**

Under the environmental and safety guidelines (E&S) of the World Bank, [National Action Plan for Corona virus disease \(COVID-19\) Pakistan, WHO guidelines](#) and Labor laws, employers have a duty of care for the health and safety of their workers and others at the workplace. This includes:

- Provision of appropriate number of tools, equipment and PPEs for facilities.
- Providing and maintaining a work environment that is safe to any risk to health and safety, and
- Providing adequate safety facilities for workers in carrying out their work.
- Conducting project activities/research work at facilities (laboratories) that are certified/ compatible on biosafety level corresponding to the associated research risk.

**Context & Rationale**

**Higher Education Development in Pakistan (HEDP)** is World Bank funded project with the aim to strengthen research capacity and academic excellence of higher education institutions in Pakistan. HEDP is comprised of diverse set of research funding opportunities including Grand Challenge Fund (GCF), Technology Transfer Support Fund (TTSF), Local Challenge Fund (LCF) and Innovator Seed Fund (ISF).

In response to Covid-19, Rapid Research & Innovation Initiative (RRII), a fast track funding opportunity has been launched, comprising of; i) Rapid Research Grant (RRG) ii) Rapid Technology Transfer Grant (RTTG) and iii) Rapid Innovator Seed Fund (RISF). RRII support proposals in applied research, product innovation and commercialization of potential solutions in various priority themes, dealing with topics and issues of severe urgency with regard to availability of or access to data, facilities or specialized equipment as well as quick-response research on COVID-19.

### Environmental Impacts and Mitigation Measures

Since the project activity may involve research to respond to Covid-19 outbreak, environmentally and socially sound operations will require adequate provisions for minimization of occupational health and safety risks, proper management and disposal of hazardous and bio-medical waste and sharps, use of appropriate disinfectants, proper quarantine procedure for COVID-19, appropriate chemical and infectious substance handling and transportation procedure as well as institutional/implementation arrangement to avoid and mitigate environmental and social risks.

The following table lists the health and safety risks and impacts associated with projects financed by HEC in response to the COVID-19 outbreak. Potential mitigation measures and references to sources of additional advice and information are also provided where applicable.

S. No.	Activity	Risks and Impacts	Mitigation Measures
1	Purchase and stocking of emergency rooms, clinics and other medical facilities, including with Laboratory equipment, supplies or goods.	Surfaces of imported materials may be contaminated and handling during transportation may result in spreading infection to healthcare workers and others.	<ul style="list-style-type: none"> <li>• Although coronavirus can stay on surfaces for a few hours to several days depending upon the type of surface (and the differing conditions and temperatures through which the equipment is moved), it is very unlikely that that the virus will persist on a surface, even if originating in a country reporting COVID-19 cases.</li> <li>• If concerned (for example when dealing with goods that have come from countries with high numbers of infected people) a surface or equipment may be decontaminated using disinfectant. After disinfecting, workers should wash hands with soap and water or use alcohol -based hand rub.</li> </ul>

			<ul style="list-style-type: none"> <li>• No special measures are required for handling imported goods and equipment, except regular hand washing.</li> <li>• Projects should ensure that adequate hand washing facilities with soap (liquid), water and paper towels for hand drying (warm air driers may be an alternative), plus closed waste bin for paper towels are available. Alcohol-based hand rub should be provided where hand washing facilities cannot be accessed easily and regularly.</li> <li>• Also ensure awareness campaigns and reminder signs are regularly posted around site to encourage workers regularly wash hands when handling goods, and that they do not touch their face.</li> </ul>
2	Purchase of PPE for laboratory /healthcare workers and facility cleaners and staff directly involved in laboratory work	Incorrect standard or quality of PPEs leads to spread of infection to healthcare workers and cleaners.	<p>Medical personal protective equipment (PPE) includes:</p> <ol style="list-style-type: none"> <li>1. Medical mask</li> <li>2. Gown</li> <li>3. Apron</li> <li>4. Eye protection (goggles or face shield)</li> <li>5. Respirator (N95 or FFP2 standard)</li> <li>6. Boots/closed work shoes</li> </ol> <p>WHO interim guidance on <a href="#">rational use of PPE for coronavirus disease 2019</a> provided further details on the types of PPE that are required for different functions.</p>
4	Hand wash stations / points	Inadequate hand washing facilities may worsen the situation	<ul style="list-style-type: none"> <li>• Projects should ensure that adequate hand washing facilities with soap (liquid), water and paper towels for hand drying (warm air driers may be an alternative), plus closed waste bin for paper towels are available.</li> <li>• If water and soap hand washing facilities are not possible, alcohol-based hand rubs may be provided.</li> </ul>
5	Alcohol-based hand sanitizers	Alcohol-based hand rubs may not be as effective at controlling infection as hand washing with soap and water.	<ul style="list-style-type: none"> <li>• Alcohol-based hand sanitizers are not considered as effective as hand washing with soap and water; and should therefore only be used in locations where full hand washing facilities cannot be provided.</li> </ul>

			<ul style="list-style-type: none"> <li>• Advice should be provided to remind users where full hand washing facilities can be found.</li> </ul>
6	Medical/ laboratory waste contaminated with COVID-19 virus	The collection, processing, treatment and disposal of medical wastes become a vector for the spread of the virus.	<ul style="list-style-type: none"> <li>• There is no evidence that direct, unprotected human contact during the handling of healthcare waste has resulted in the transmission of COVID-19.</li> <li>• The treatment of healthcare waste produced during the care of COVID-19 patients should be collected safely in designated containers and bags, treated and then safely disposed.</li> <li>• Open burning and incineration of medical wastes can result in emission of dioxins, furans and particulate matter, and result in unacceptable cancer risks under medium (two hours per week) or higher usage.</li> <li>• Alternative treatments should be designed into longer term projects, such as steam treatment methods. Steam treatment should preferably be on site, although once treated, sterile/non-infectious waste may be shredded and disposed of in suitable waste facilities.</li> </ul> <p>See WHO <a href="#">Safe management of wastes from health-care activities</a>.</p>
7	Water, sanitation, hygiene and waste management for COVID-19	COVID-19 virus is transmitted through inappropriate sanitation arrangements or through drinking water and contaminated waste.	<ul style="list-style-type: none"> <li>• There is no evidence that COVID-19 virus persists in drinking water, sewage, or medical wastes, and following of good hygiene practices will provide effective control.</li> <li>• Adequate arrangement be made to dispose of effluent from laboratory/ research facilities to municipal sewerage system.</li> </ul> <p>See WHO <a href="#">guidance on water, sanitation and waste management for COVID-19</a> for guidance on control measures.</p>
8	Collection of (blood / plasma samples), testing, Identification and diagnosis	Collection of samples from suspected and recovered patients from COVID-19 for research	<ul style="list-style-type: none"> <li>• Collection of samples, transport of samples and testing of the clinical specimens from such persons meeting the suspect case definition should be performed in accordance with WHO interim guidance</li> </ul>

		<p>work could result in spread of disease to medical workers or laboratory workers, or during the transport of potentially affected samples.</p>	<p><a href="#">Laboratory testing for coronavirus disease 2019 (COVID-19) in suspected human cases.</a></p> <ul style="list-style-type: none"> <li>• Research work (including sample management) should be performed in appropriately equipped laboratories (specimen handling for molecular testing requires BSL-2/3 or equivalent facilities – as certified separately by the researcher / proponent).</li> <li>• All relevant staff should be trained in the relevant technical and safety procedures.</li> <li>• National guidelines on laboratory biosafety should be followed. There is still limited information on the risk posed by COVID-19, but all procedures should be undertaken based on a risk assessment. For more information related to COVID-19 risk assessment, see specific interim guidance document: WHO interim guidance for <a href="#">laboratory biosafety related to 2019-nCoV</a>.</li> <li>• Samples that are potentially infectious materials (PIM) need to be handled and stored as described in WHO document <a href="#">Guidance to minimize risks for facilities collecting, handling or storing materials potentially infectious for polioviruses (PIM Guidance)</a>.</li> </ul> <p>For general laboratory biosafety guidelines, see the WHO <a href="#">Laboratory Biosafety Manual, 3rd edition</a>.</p>
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## Institutional<sup>1</sup> Preparedness & Planning for Pandemic- COVID-19

### **Introduction:**

To enhance the readiness of the Higher Education Institutes (HEIs) and to cope with the challenges of a pandemic or any other emergency or disaster, the Head of the Institutions need to ensure the initiation of relevant generic priority actions. This document aims to provide two checklists of the key actions to carry out in the context of a continuous institutional

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<sup>1</sup> Include: Research facility / Laboratory and other allied facilities where the project supported research activities will be executed

emergency preparedness process. These include: (Checklist:1) Occupational Health and Safety / Infection Control Activities; and (Checklist:2) Medical/Hazardous Waste Management

Under **Checklist- 1** (Occupational Health and Safety / Infection Control Activities) there is a set of questions regarding the status of implementing the recommended actions as part of preparedness and planning activities at the concerned facility/laboratory to demonstrate readiness in coping with the pandemic COVID-19.

**Whereas Checklist–2** (Medical/Hazardous Waste Management) provides a set of screening questions to ensure the safe management and disposal of medical/hazardous waste generated from the research facility/ laboratory or during the course of research work.

### Checklist- 1: Occupational Health and Safety / Infection Control Activities<sup>2</sup>

Project Title:
Applicant/ PI Name:
Department:
Institution Name:
Filled by:(Name with Designation, Institution and Date)

S.No.	Activities	Not Started <sup>3</sup>	In Progress <sup>4</sup>	Completed
1	Develop a facility pandemic safety plan and appoint a safety officer.			
2	Provide staff education about COVID-19 infection control and update policies/ processes as required.			
3	Develop guidance for staff monitoring for signs of illness (including self-reporting, self-quarantine, and start/end of shift evaluation) and create a mechanism for reporting both illness and absenteeism.			

<sup>2</sup> Demonstrates the state of readiness for a health care facility towards effectively responding a pandemic (COVID-19)

<sup>3</sup> The project will pursue and follow up for initiating required actions the earliest possible.

<sup>4</sup> The project will follow up for soonest completion of actions

S.No.	Activities	Not Started <sup>3</sup>	In Progress <sup>4</sup>	Completed
4	Determine contingency plan for at-risk staff (e.g., pregnant, other defined risk groups) including job expectations and potential alternate roles and locations.			
5	Ensure that faculty, researchers, students, employees and visitors are aware of cough etiquette and respiratory and hand hygiene. Provide verbal instruction, informational posters, cards, etc.			
6	Ensure that those caring for suspected and confirmed cases apply standard and droplet precautions.			
7	Ensure that personal protective equipment (PPE) (i.e. medical/surgical masks, gloves, gowns, eye protection) is easily accessible to personnel and staff at the institution premises.			
8	If the supply of PPE is limited, prioritize staff caring for cases.			
9	Provide medical/surgical masks to staff directly involved in COVID-19 related research work.			
10	Ensure the faculty and researchers with symptoms of epidemic- or pandemic-prone disease should remain at home.			

**Disclosure:**

The above answers are true and complete. I understand that the HEC is relying on them to make its decision.

Applicant Signature & Date
Applicant Contact Number & Email:

Please sign below to verify that the information in this document is accurate and complete to the best of your knowledge.

Environmental Professional Signature & Date (Optional)
Name
Contact Number & Email:
Head of the Institution Signature & Date
Name
Contact Number & Email:

**Reviewed & Inspected by HEC Official:**

Signature & Date
Name & Designation

## Checklist-2: Medical/Hazardous <sup>5</sup> Waste Management

Project Title:
Applicant/ PI Name:
Department:
Institution Name:
Filled by:(Name with Designation, Institution and Date)

	Activities	Response Check Yes or No <sup>6</sup>		Remarks
	<b>Waste segregation and collection</b>			
1	Does waste segregation occur at the point where the waste is generated?	Yes	No	
2	Is the collected waste properly segregated?	Yes	No	
3	Are color-coded waste containers used in all facility areas?	Yes	No	
4	Are waste containers properly marked and labeled as per the waste they contain?	Yes	No	
5	Do all yellow buckets for collecting infectious waste have lids?	Yes	No	

<sup>5</sup> Include: Research facility / Laboratory and other allied facilities where the project supported research activities will be executed

<sup>6</sup> In case the response is “No” for any question, please take/ensure immediate appropriate mitigation measures

	Activities	Response Check Yes or No <sup>6</sup>		Remarks
		Yes	No	
6	Are all waste containers free of leaking?	Yes	No	
7	Are sharps containers puncture-resistant, and leak-proof?	Yes	No	
8	Is appropriate passageway space maintained near the waste containers?	Yes	No	
9	Are the waste containers emptied at the end of each day?	Yes	No	
10	Are the waste containers filled no more than about three-quarters full?	Yes	No	
11	Are containers cleaned daily after waste is emptied?	Yes	No	
12	Is segregated sharps waste sealed and labeled before transportation?	Yes	No	
13	Is medical waste other than sharps placed in clearly labeled heavy-duty biohazard plastic bag or yellow plastic bag?	Yes	No	
14	Does everyone who will be handling waste have the appropriate PPE? (Gloves, tongs)	Yes	No	
15	Is chemical waste temporarily stored in the generator's laboratory?	Yes	No	
16	Is the chemical waste stored in a central waste-holding facility of the building?	Yes	No	
17	Are incompatible chemical wastes stored in separate containers?	Yes	No	
18	Are liquid waste containers only filled to 70-80% capacity?	Yes	No	
<b>Waste storage</b>				
19	Are lids of waste bins and containers closed properly during transportation from ward to central storage?	Yes	No	

	Activities	Response Check Yes or No <sup>6</sup>		Remarks
		Yes	No	
20	Is waste storage area located away from the faculty, students?	Yes	No	
21	Are the waste collection tanks completely enclosed?	Yes	No	
22	Are the waste collection tanks not overfilled?	Yes	No	
23	Is waste storage area kept clean, free from loose litter and malodorous spillages and debris?	Yes	No	
24	Is waste storage area free from pests and vermin?	Yes	No	
25	Is waste storage area secure and with access restricted to authorized personnel only?	Yes	No	
26	Is waste storage area well lit?	Yes	No	
27	Is waste storage area well ventilated?	Yes	No	
28	Is waste storage separated from food preparation area(s) and supply rooms?	Yes	No	
29	Is stored waste clear within the following periods? <ul style="list-style-type: none"> <li>▪ Maximum 48 hours during the cool season</li> <li>▪ Maximum 24 hours during the hot season</li> </ul>	Yes	No	
30	Is waste storage area clearly marked with warning signs (biohazard symbol)?	Yes	No	
31	Is there access to first aid and washing facilities?	Yes	No	
32	Is waste storage area away from routes used by the general public?	Yes	No	

	Activities	Response Check Yes or No <sup>6</sup>		Remarks
		Yes	No	
33	Is bag for storage of infectious waste identified with the source where the waste is generated — either by a written label or with bar-coded tape or labels?	Yes	No	
34	Is water supply available for cleaning purpose in the storage area?	Yes	No	
<b>Documentation</b>				
35	Are policy and procedures for waste management available in the storage area?	Yes	No	
36	Are SOPs for waste holding and storage available in the storage area?	Yes	No	
37	Is the record of quantity of collected waste in the storage area well maintained and up to date?	Yes	No	
38	Are medical/hazardous waste management training aids posted in the storage area?	Yes	No	
<b>Training</b>				
40	Have the relevant staff got training on medical/hazardous waste management?	Yes	No	
41	Do personnel understand hazards and how to minimize risks?	Yes	No	
42	Is injury and emergency response procedure known and understood by all relevant personnel?	Yes	No	

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Applicant Signature & Date
Applicant Contact Number & Email:

Please sign below to verify that the information in this document is accurate and complete to the best of your knowledge.

Environmental Professional Signature & Date (Optional)
Name
Contact Number & Email:
Head of the Institution Signature & Date
Name
Contact Number & Email:

**Reviewed & Inspected by HEC Official:**

Signature & Date
Name & Designation