INDEPENDENT STATE OF PAPUA NEW GUINEA

NATIONAL DEPARTMENT OF HEALTH

Papua New Guinea COVID-19 Emergency Response Project
World Bank: P173834

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK
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1 Background

The Government of Papua New Guinea (GoPNG) has secured US$20 million IDA credits allocated from the World Bank through the Fast Track Covid-19 Response Program for the COVID-19 Emergency Responses Project (the Project). The Project reflects the emergency response under the COVID-19 Strategic Preparedness and Response Program (SPRP). The Project aims to prevent, detect and respond to the threat posed by COVID-19 and strengthen national systems for public health in PNG by improving emergency preparedness and response, strengthening health systems, and managing implementation and monitoring and evaluation. The Project will have a national footprint, although some activities are restricted to 10 priority provinces.

This Environmental and Social Management Framework (ESMF) sets out the principles, policies and procedures for environmental and social protection that the GoPNG will employ in the context of the Project. The ESMF template for COVID-19 Response was used to guide the development of this ESMF.

The rationale of using an ESMF instead of project-specific environmental and social assessment and management plans, is that the exact locations of project activities, as well as the type and magnitude of the environmental and social impacts will not be known until the project is at an advanced stage of implementation.

The purpose of the ESMF is to guide the Project Coordination Unit (PCU) and the Sub-component project Proponents on the environmental and social screening processes and subsequent assessment during implementation, including activity-specific plans in accordance with the World Bank Environmental and Social Framework (ESF).

The scope of this ESMF includes procedures relevant to the development of all activities, including how to conduct screening of project activities to assess the environmental and social risks and impacts and identify mitigation measures, as part of activity-specific assessment and plans. This ESMF is supported by the Infection Prevention Control and Waste Management Plan (IPC&WMP), Code of Environmental and Social Practice (CoESP), Labour Management Procedure (LMP), Stakeholder Engagement Plan (SEP), Project Operational Manual (POM) and other specific plans that have been or will be prepared for the Project. This ESMF will allow the GoPNG to clarify, to the extent possible and based on existing information, the approach that should be taken at the activity level, in accordance with the World Bank ESF.

2 Project Description

2.1 Project Summary

The PDO for the Project is to prevent, detect and respond to the threat posed by COVID-19 and strengthen national systems for public health preparedness in Papua New Guinea (PNG). The PDO will be monitored through the following PDO level outcome indicators:

- Proportion of laboratory-confirmed cases of COVID-19 responded to within 48 hours;
- Samples from suspected cases of COVID-19 / SARI that are confirmed within 48 hours; and
- Number of Provinces with personal protective equipment (PPE) and infection prevention & control (IPC) products and supplies, without stock-outs in preceding two weeks.
The Project objectives are aligned to the results chain of the COVID-19 SPRP. This project is prepared under the global framework of the World Bank COVID-19 Response financed under the Fast Track COVID-19 Facility.

2.2 Project Subcomponents

The proposed project components and sub-components are:

**Component 1: Preparedness for COVID-19 Containment and Mitigation (Total US$ 5.4 million)**

The aim of this component is to slow down and limit the spread of COVID-19 in PNG and improve preparedness for future public health emergencies. This will be achieved through providing immediate support for a comprehensive communication and behaviour change intervention and strengthening capacity for active case detection and response.

*Sub-component 1.1: Risk Communication and Community Engagement (US$ 4.4 million)*: This sub-component will finance the implementation of a comprehensive communication and behaviour change intervention to support key prevention behaviours (hand washing, cough etiquette, social distancing etc.), including: (i) developing and testing messages and materials; and (ii) costs associated with printing and distributing/ disseminating messages and materials. In this initial phase the focus is expected to be on prevention messages. The focus will be adapted based on the scenarios identified in the National Emergency Response Plan. Risk communication and community engagement activities will use a number of media platforms including television, radio, social media (such as Facebook), newspaper advertisement and printed materials as well as SMS – short message service - blasts. Based on experience responding to a recent outbreak of polio, health workers are expected to be a major source of information and talking points and resources will be developed for health workers. This sub-component will finance community engagement and school awareness activities and envisages partnerships with a number of stakeholders including churches and the private sector. Activities implemented under this sub-component will have a national footprint. This component will finance implementation of the SEP.

*Sub-component 1.2: Strengthening Response Support at the Provincial Level (US$ 0.4 million).* This sub-component will finance technical assistance, training and operations costs for rapid response and surveillance activities at the province level in a phased manner starting with 10 priority provinces identified by the National Department of Health (NDOH). Activities in this sub-component will be nested within provincial COVID-19 response plans. The main focus will be on active case finding, including contact tracing, and on improving oversight, coordination, surveillance and data analysis to guide the COVID-19 response. Provincial emergency response teams are in place at the province level and were deployed in the polio response. Salaries or allowances for government staff and contractors engaged in provincial response teams are not included in this sub-component as these are financed through the Government’s budget and by other development partners.

*Sub-component 1.3: Human Resource Development (US$ 0.6 million).* This sub-component seeks to build human resource capacity for COVID-19 preparedness and response. It will include training and other capacity building activities related to interpersonal communication by health workers related to COVID-19, infection prevention and control, testing, waste management and clinical management of patients with mild symptoms in primary care settings. Given travel restrictions in PNG, remote training options may be used. Activities under this sub-component will initially focus in the 10 priority provinces
identified by the NDOH, and may potentially be expanded to additional provinces if the situation warrants it.

**Component 2: Health Systems Strengthening (Total US$ 13.9 million)**

The aim of this component is to strengthen the health system’s ability to rapidly diagnose, contain the spread of COVID-19 and improve clinical management of sick patients. It will include financing to strengthen early detection, improve clinical management of COVID-19 and support measures to contain its spread. Finally, this component will also finance the implementation of priority actions for pandemic preparedness based on findings from the Joint External Evaluation exercise to be conducted in PNG.

**Sub-component 2.1: Building Testing Capacity (US$ 6.7 million).** This sub-component seeks to expand and/or strengthen PNG’s testing capacity for COVID-19. This sub-component will finance a containerized laboratory, laboratory equipment (including Polymerase Chain Reaction or PCR and GeneXpert machines), medical furniture (including biosafety cabinets), GeneXpert cartridges, reagents, consumables and supplies for PCR machines and, if necessary, at a later stage, serology tests for COVID-19 to expand testing capacity. This sub-component will also finance transportation costs for COVID-19 samples within PNG and to the reference laboratory in Australia for quality control. The geographic footprint of this sub-component is national.

The Institute of Medical Research (IMR) in Goroka, Eastern Highlands Province, a regional centre of excellence for tropical medicine research, is the only laboratory in PNG that is currently testing for COVID-19. The IMR has 2 PCR machines which can currently test a maximum of 300 samples a day each. A second critical gap relates to the transportation of samples from collection sites to IMR. Samples are currently transported between provinces by air using courier companies contracted by NDOH, or by road. Cash flow constraints and poor transportation links often create delays in transporting samples. Not all provinces have direct air links to Goroka, where IMR is located. This can further lengthen the turnaround time to obtaining test results and responding appropriately. PNG has about 50 GeneXpert machines in all provinces which could be used to screen for COVID-19 as they are currently underutilized. Per NDOH’s request, this component will therefore improve capacity to test for COVID-19 at sites including the Central Public Health Laboratory, the national reference laboratory in Port Moresby, at IMR in Goroka as well as through GeneXperts at existing and additional sites as needed. Given space constraints it is currently proposed that a containerized laboratory would be procured, equipped and placed on publicly owned land in Port Moresby.

**Sub-component 2.2: Enhancing Containment and Clinical Management Capacity (US$ 6.9 million).** Clinical management capacity for COVID-19 is severely limited in PNG with only 8 isolation beds at Port Moresby General Hospital, the national reference hospital. Given that COVID-19 is highly infectious, there are concerns about proximity between sick and vulnerable patients with other conditions and those with COVID-19 as well as for the safety of health workers. In addition, building clinical management capacity at the provincial level will be critical to contain and manage not only COVID-19 but future pandemics.

This sub-component will finance the procurement of PPE like masks, goggles, gloves, gowns, etc., as well as supplies for infection prevention, modular (prefabricated) isolation units, intensive care equipment, medical furniture and supplies for the isolation units. The equipment is likely to include ward and transport ventilators, oxygen concentrators, oxygen cylinders, oxygen flow regulators, suction machines,
supplies and consumables as well as equipment for infection prevention (such as autoclaves) and incinerators for waste management where this is necessary. Technical assistance for the development of health worker safety and waste management plans will be provided through component 3. While PPE will be procured for use across the country, other activities under this sub-component will focus initially on 10 priority provinces to be identified by the NDOH.

**Sub-component 2.3: Strengthening Pandemic Preparedness (US$ 0.3 million).** PNG’s recent history of multiple outbreaks highlights the value of investing in pandemic preparedness. Recent outbreaks have been profoundly disruptive, with surge response disrupting routine service delivery as staff and resources are diverted to crisis management. Provinces and sub-national authorities have a key role to play in pandemic preparedness given PNG’s decentralized health system, rugged terrain and dispersed population.

This sub-component will finance technical assistance to support the implementation of priority actions identified in the Joint External Evaluation to be conducted in PNG, and agreed with the World Bank, with a focus on the 10 priority provinces identified by the Government of PNG in a first wave, with potential expansion to additional provinces based on needs. Technical assistance will also be provided to support the Government of PNG on the monitoring of core capacity requirements under the International Health Regulations.

**Component 3: Managing Implementation and Monitoring & Evaluation (US$ 0.7 million)**

The Project will use the current Project Coordination Unit (PCU) for the Emergency Tuberculosis Project (ETP) to manage and implement the Project. The current complement of PCU staff will be enhanced with a Financial Management Specialist (FMS), Monitoring & Evaluation Specialist, and a local Environmental, Social and Health and Safety and Community Engagement Specialist. This component would also support monitoring and evaluation activities, real time lessons learning from the response exercise and joint-learning between countries and within PNG. Technical assistance for the development of health worker safety and waste management plans will be provided through this component.

**Component 4: Contingent Emergency Response Component (CERC) (US$ 0 million)**

The objective of this component is to improve the Government of PNG (GoPNG) response capacity in the event of an emergency, following the procedures governed by OP/BP 8.00 (Rapid Response to Crisis and Emergencies). The Component would support a rapid response to a request for urgent assistance in respect of an event that has caused, or is likely to imminently cause, a major adverse economic and/or social impact to PNG associated with a natural or man-made crisis or disaster. In the event of an emergency, financial support could be mobilized by reallocation of funds from other Components to support expenditures on a positive list of goods and/or specific works and services required for emergency recovery. A CERC Operational Manual, governing implementation arrangements for this component, will be prepared with support under the Project.

### 2.3 Summary of Key Project Subcomponent Activities

This Emergency Operation will be initially implemented in ten priority provinces including Port Moresby/National Capital District (NCD) (to be confirmed) with the potential of expanding to other provinces as required.
The main project activities will include risk communication and community engagement (RCCE); training and operational costs for rapid response and surveillance; and strengthening health infrastructure including containerized laboratories, laboratory equipment, isolation centres and intensive care equipment. Modular isolation units were proposed during project preparation. However, due to operational capacity limitations, refurbishment of existing health facilities for isolation centres is now preferred.

Expenditures on a list of goods and/or specific works, goods, services and emergency operation costs required for a COVID-19 emergency recovery will be included. The major planned procurement includes:

(i) medical/laboratory equipment and consumables;
(ii) personal protective equipment (PPE) in facilities and triage;
(iii) clinical management equipment;
(iv) equipment of medical facilities;
(v) technical assistance for updating or reviewing national plans and costs;
(vi) human resources for response; and
(vii) expertise for development and training of front-line responders. The Project will also invest in the procurement of appropriate waste management infrastructure, including waste containers, PPE, and 10 high combustible, diesel fuel incinerators to destroy 50 kg/hr. of medical waste. The Project will also finance transportation costs for COVID-19 samples, following WHO guidelines, from PCR Labs in PNG that are testing samples for COVID-19 to an Australian reference lab.

No civil works are expected under this project, other than the establishment of modular laboratories and refurbishments of health-care facilities for isolation centres within the grounds of existing health facilities or on other government sites (if necessary). Target laboratory facilities currently include the Institute of Medical Research (IMR) Laboratory in Goroka, Eastern Highlands Province and the Port Moresby General Hospital and the Public Health Laboratory in Port Moresby, NCD. Other provincial testing facilities may be rolled out as well.

A CERC is included as component 4 which may be used for emergency activities (health emergencies as well as natural disasters). A positive and negative list will be developed for the CERC component and included in the CERC Operational Manual.

2.4 Project Area and Beneficiaries

The expected project beneficiaries will be the population at large given the nature of the disease; infected people; at-risk populations, particularly the elderly and people with chronic conditions; and medical and emergency personnel in public health agencies and medical and testing facilities engaged in the response in target project areas. The exact locations of the priority provinces are yet to decided but may include provinces bordering Indonesia, the NCD, Morobe, the Eastern highland provinces, and New Britain. This will be determined on an as required basis, during project implementation, depending on how the COVID-19 infection is evolving.

2.5 Other World Bank Programming in the PNG Health Sector

The Project commitment is part of a wider package of World Bank support to tackle a number of PNG’s most pressing health challenges. The US$15 million Emergency Tuberculosis (ETB) Project, now in its third year, has already had a significant impact with treatment success rates of above 85 percent for patients in Daru Island and an expansion of project activities to Port Moresby. The recently approved US$30 million IMPACT Health (IH) project, will strengthen the quality of health services, particularly in rural areas. This new project aims to address critical bottlenecks in the PNG health sector to improve the delivery of services on the ground, ensuring medicine, equipment and expertise are reaching the
‘frontlines’ of health in rural areas. The Project’s health system component was designed to link and support the existing Emergency TB project and the new IH project.

3 Policy, Legal and Regulatory Framework

3.1 Country Context

3.1.1 Environmental Assessment, Review and Permitting

The key environmental legislation in Papua New Guinea is the Environment Act 2000 and the associated Environment (Prescribed Activities) Regulation 2002. The Act is administered by Conservation and Environment Protection Authority (CEPA) and covers any activity that ‘results or is likely to result in a change in the environment.’ CEPA was established under the Conservation and Environment Protection Act 2014 (CEPA Act) and takes over the role formerly undertaken by the Department of Environment and Conservation as PNG’s environmental regulator. CEPA is self-funded, with the legislation providing for environmental management fees of varying kinds. The establishment of a self-funded regulator aimed to make the administration of applications for, and enforcement of, existing permits more efficient. Donor agencies like UNDP, Global Environment Fund, and JICA have since been working with CEPA on technical matters, progressing issues on policies and agendas.

The Environment Act 2000 has three levels of activity, Level 1, Level 2 (Category A and Category B) and Level 3. Schedule 1 and 2 of the Environment (Prescribed Activities) Regulation 2002 prescribes the activities under each of the Levels. Level 3 cover those activities with the potential of major environmental impact and are projects of national significance or of large scale. Level 1 activities are those that require a minimum amount of environmental protection. Level 2 and Level 3 activities require an Environmental Permit. Level 1 activities only require an Environmental Permit at the request of the Director of Environment. If one project has numerous prescribed activities, they will be amalgamated into a single Environmental Permit and be considered in one application. Level 3 activities are subject to a process of detailed appraisal of environmental impacts and public consultation through an environmental impact assessment process, prior to the application for an Environmental Permit.

The application process for each level is provided in Figure 1.

Relevant examples of the Activity Levels are:

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<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
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<tr>
<td>Any activity not listed under Level 2 or 3. It assumes that these activities are ‘minor’ in nature and scale of impacts.</td>
<td>Sub-category 11.4 - Incineration, reprocessing, treatment or disposal of industrial or biomedical waste of a capacity greater than 10 tonnes per year (Category 2B).</td>
<td>Sub-category 21.2 - Construction of commercial sites for the storage, treatment, reprocessing, incineration or disposal of hazardous contaminants.</td>
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The activity that this permit process relates to is the installation of the 17 incinerators funded by the Project. The incinerators may be classified as a level 2(B) activity and require a permit, depending on the amount of health-care waste that is incinerated per year. The exact amount of waste to be incinerated will be determined during project implementation. The CEPA environmental permit process will be followed by the PMU to determine what level of permit, if any, will be needed for the incinerators.
Although CEPA’s performance is variable, the NDOH has consulted previously on the permitting requirements for medical waste incinerators, which constitute the only project activity subject to Environment (Prescribed Activities) Regulation 2002. The feedback received was clear and NDOH are confident that the required permits will be obtained in a timely manner, based on this previous experience.

Other relevant regulations include:

- **Building Act 1971 and Regulations** - An Act to regulate and control construction. Includes controls on demolition, construction, excavations, sanitary facilities, fire controls, etc. relating to the safety of buildings and other structures. Relevant to any construction or renovation of any structures, whether temporary or permanent.

- **National Cultural Property (Preservation) Act (1965)** - An Act relating to the preservation and protection of objects of cultural or historical importance to Papua New Guinea, and for other purposes. Relevant to any Cultural Heritage / PCR site / facility / enhancement, protection, development, damage or removal.

### 3.1.2 Health-care Regulatory and Policy Framework

GoPNG has a well-established regulatory framework that provides measures to improving health services. The following laws contribute to the regulatory framework for health system functioning in PNG: Poisons and Dangerous Substances Act (1952); Disaster Management Act (1984); HIV/AIDS
Management and Prevention Act (2003); and The Public Hospitals (Charges) Act (1972) which provides for user fees to be charged at public hospitals. The National Health Administration Act (No.325 of 1997) intended to provide a framework for coordination between the NDOH and provincial authorities, and the Provincial Health Authority Act (2007). The National Health Administration Act provides guidance for the administration of health services in accordance with the principles of decentralization contained in the Organic Law on Provincial and Local Level Governments and for related purposes.

The NDoH has responsibility for setting policies, developing standards and guidelines, procuring pharmaceuticals and medical supplies, surveillance, and managing public hospitals including Port Moresby General Hospital, one psychiatric specialist hospital and provincial hospitals. Provincial and local governments are responsible for funding and delivery of rural health services and implementing all policies and programs according to the set goal and vision of the national government. Health advisors coordinate the health planning process within the provincial government planning framework.

Other relevant plans and policies include:

- **National Health Plan 2011-2020.** The NHP 2011-2020 sets the goal of strengthening PHC for and improving service delivery for the rural majority and the urban disadvantaged. The NHP includes eight KRAs to monitor progress towards this goal. These are: (i) improving service delivery; (ii) strengthening partnerships and coordination with stakeholders; (iii) strengthening health systems; (iv) improving child survival; (v) improving maternal health; (vi) reducing the burden of communicable diseases; (vii) promoting healthy lifestyles; and (viii) improving PNG’s preparedness for diseases outbreaks and emergency population health issues. An instrumental policy to the achievement of these KRAs is PNG’s Free Primary Health Care and Subsidized Specialized Care policy.

- **National Infection Prevention and Control Policy 2018 (draft).** The Infection Prevention and Control Policy (IPC) sets the framework for safe, effective and quality delivery of health-care services based on principles and standards of infection prevention and control practices throughout PNG. It is established in compliance with National Health Service Standards 2011-2020 and has the primary purpose to provide leadership to all health services on how to effectively prevent, manage and control health-care associated infections, in order to minimize the adverse health impacts on patients treated within health-care facilities.

### 3.1.3 COVID-19 Preparedness and Response

- **National Emergency Preparedness and Response Plan for COVID-19** – The Government of Papua New Guinea (PNG) through the National Department of Health (NDOH) has developed a preparedness and response plan that outlines the strategic components for managing a public health response to COVID-19. The plan considers priority actions to take in the event of community transmission. This plan is a live document that will be regularly updated based on the evolving situation and as more information is generated about the outbreak.

- **National Communications Plan for COVID-19** – A National Communications Plan for COVID-19 was developed by NDOH in February 2020. It has since been updated in April 2020 to better address the current and future communication needs of the country. The updated communications plan also expands its coverage to other social issues beyond health and identifies additional key players that would be responsible for delivering those key actions. This continues to be a live document and will be updated as events and priorities evolve. The Project
SEP was developed with the National Communications Plan as a reference and in terms of messaging is consistent with the National Plan. However, the SEP is specifically focused on activities supporting the Project, while the National Plan also deals with broader social issues and stakeholders.

3.1.4 Infection Prevention Control and Health Care Waste Management

The solid waste management sector relies on legislative and regulatory documents that contain general waste provisions. However, the existing regulatory framework lacks a single legislative document to provide for effective planning, management, and operation of the sector. An IPC&WMP has been developed for the project (Annex IV) and contains procedures, based on WHO guidance, for the safe operation of health facilities and protection of the public from exposure to the virus as a result of project activities.

The following laws, policies and guidelines should be used as the guidance for proper management of health-care wastes in Papua New Guinea:

- Public Health Act (1992)
- National Health Administration Act (1997)
- Environmental Contaminants Act (1978) and Regulations
- Water Supply and Sanitation Act (2016)
- Public Health (Sanitation and General) Regulation (1973)
- National Health Plan 2001-2010
- National Infection Prevention and Control Policy 2018
- Infection Prevention Policy Guidelines for Health Facilities
- Minimum Standards for District Health Services in Papua New Guinea
- Traditional Laws Governing Burial Areas
- NCD Waste Management Policy
- Guidelines for Health-care waste management in PNG (draft)
- Environmental Code of Practice for Sanitary Landfill Sites (2001)

3.1.5 Labour Legislation

Labour legislation relevant to the project is summarized in the Labour Management Procedure (LMP) (Annex V).

3.2 World Bank Environmental and Social Standards

3.2.1 ESF Standards Relevant to the Project

The Environmental and Social risk is classified as ‘Substantial’ for the Project. Six of the ten Environmental and Social Standards (ESSs) of the World Bank’s (WB’s) Environmental and Social Framework (ESF) have been screened as relevant. They are assessed in Table 1 below. The other four are considered not relevant, namely: ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement, ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources, ESS8 on Cultural Heritage, and ESS9 on Financial Intermediaries. Detailed information on the Bank’s ESF are available at: [https://www.worldbank.org/en/projects-operations/environmental-and-social-framework](https://www.worldbank.org/en/projects-operations/environmental-and-social-framework).
The ESS that apply to the Project and the required measures and actions that apply, as contained in the Environmental and Social Commitment Plan (ESCP), are listed in Table 1.

### Table 1 - Required Project Environmental and Social Standard Actions

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<th>Environmental &amp; Social Standard</th>
<th>Required Measures and Actions</th>
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<td><strong>ESS1 Assessment and Management of Environmental and Social Risks and Impacts</strong></td>
<td>The National Department of Health shall recruit a full-time Local Environmental, Social and Health and Safety and Community Engagement Specialist. This position will be recruited/appointed within 1 month after the effective date of the Financing Agreement for the Project (Effective Date). An international part-time Environmental, Social and Health and Safety Specialist shall be retained on an as-required basis. The NDOH will also contract United Nations Operation for Project Services (UNOPS) and UNICEF to support Project activities. The NDOH shall ensure that these organizations follow the Project’s ESMF and comply to all relevant ESSs. The National Department of Health shall develop an Environmental and Social Management Framework (ESMF). The ESMF will be prepared, disclosed and adopted no later than 30 days after Effective Date. Between project approval and the preparation of the ESMF, the Project will strictly follow current WHO Guidance and avoid activities such as establishment of isolation units and treatment facilities at scale.</td>
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<td><strong>ESS2 Labour and Working Conditions</strong></td>
<td>The National Department of Health will adopt Labour management procedure (LMP). The LMP will be prepared, disclosed and adopted as part of the ESMF, no later than 30 days of Effective Date.</td>
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<tr>
<td><strong>ESS3 Resource Efficiency and Pollution Prevention and Management</strong></td>
<td>The National Department of Health will develop an Infection Prevention Control and Waste Management Plan (IPC&amp;WMP). The IPC&amp;WMP will be prepared, disclosed and adopted as part of the ESMF, no later than 30 days after Effective Date.</td>
</tr>
<tr>
<td><strong>ESS4 Community Health and Safety</strong></td>
<td>Precautions measures in line with the ESMF, IPC&amp;WMP and WHO guidelines on COVID-19 shall be put in place to prevent or minimize the spread of the infectious disease/COVID-19 from laboratories, quarantine and isolation centres to the community.</td>
</tr>
<tr>
<td><strong>ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities</strong></td>
<td>The project’s SEP will be updated to ensure that IPs are fully consulted in a culturally-appropriate manner and have opportunities to benefit from the project activities. The SEP will be updated, disclosed and adopted no later than 30 days after Effective Date.</td>
</tr>
<tr>
<td><strong>ESS8 Cultural Heritage</strong></td>
<td>Although this standard is not considered relevant, in the unlikely event of construction or the movement of earth in connection with any project activities that have not yet been identified a chance finds procedure (CFP) will be prepared and integrated into the ESMF for the project. The CFP will be prepared, disclosed and adopted as part of the ESMF no later than 30 days after Effective Date.</td>
</tr>
<tr>
<td>Environmental &amp; Social Standard</td>
<td>Required Measures and Actions</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>------------------------------</td>
</tr>
</tbody>
</table>
| **ESS10 Stakeholder Engagement and Information Disclosure** | The SEP will be updated, disclosed and adopted no later than 30 days after the Effective Date.  
The National Department of Health shall adopt, implement and update the Grievance Mechanism (GM). The GM will be adopted within 30 days of the Effective Date and thereafter implemented and updated throughout project implementation |

### 3.2.2 World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines) relevant to the project

The following EHS guidelines are relevant to the project and have been used to guide the development of the Code of Environmental Practice (CoESP), IPC&WMP, and LMP:

- General EHS Guidelines: Community Health and Safety. Section 3.6 - Disease Prevention.
- General EHS Guidelines: Waste Management.
- Environmental, Health, And Safety Guidelines Health Care Facilities.

### 3.2.3 World Bank Response to COVID-19.

During the past 2-3 months, in response to COVID-19 outbreak, the World Bank Group (WBG) has developed the following guidance material:

- Guideline for the preparation of a Contingency Plan for Project Sites
- Technical Note: Public Consultations and Stakeholder Engagement to be applied to projects under implementation and those under preparation.

For ESS1, the WBG also identifies risks and mitigations measures for the transactions involving specific project finance activities (i.e. works, goods and services, and technical assistance). The guidance has been considered during the preparation of this ESMF and supporting documents.

### 3.3 Relevant International and Regional Agreements

PNG is a party to the following regional and international agreements:

- **Pacific Regional Solid Waste Management Strategy 2010-2015.** PNG was one of several Pacific island countries to adopt the Pacific Regional Solid Waste Management Strategy, initiated by SPREP, and adopted by member countries in 2009.
- **Stockholm Convention for Persistent Organic Pollutants.** The Stockholm Convention on Persistent Organic Pollutants is an international environmental treaty, signed in 2001 and effective from May 2004, that aims to eliminate or restrict the production and use of persistent organic pollutants (POPs). This convention entered into force in PNG in May 2004.
- **Basel Convention.** The Basel Convention is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of
hazardous waste from developed to less developed countries (LDCs). This convention entered into force in PNG in November 1995.

- **Waigani Convention on Hazardous Waste.** The 1995 Waigani Convention is a treaty that bans the exporting of hazardous or radioactive waste to Pacific Islands Forum countries and prohibits Forum island countries from importing such waste. The convention has been ratified by PNG.

### 3.4 Relevant Good International Industry Practice (GIIP)

Relevant Good International Industry Practice (GIIP) such as WHO technical guidance have been developed for addressing COVID-19. These technical guidance documents are evolving, and they are being updated as new information becomes available. The guidance has been considered during the preparation of this ESMF and supporting documents.

WHO resources include technical guidance on: (i) **laboratory biosafety**, (ii) **infection prevention and control**, (iii) **rights, roles and responsibilities of health workers**, including key considerations for **occupational safety and health**, (iv) **water, sanitation, hygiene and waste management**, (v) **quarantine of individuals**, (vi) **rational use of PPE**, (vii) **oxygen sources and distribution for COVID-19 treatment centres**, (viii) **Surveillance and case definitions** (ix) **Risk communication and community engagement**

WHO Guidelines for COVID-19 are summarized in Table 2. Additional guidance is also listed in Annex VIII.

**Table 2 – WHO Guidelines for COVID-19**

<table>
<thead>
<tr>
<th>WHO Guideline</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Covid-19 guidance environmental on cleaning for healthcare facilities 17 April 2020</strong></td>
<td>Guidance on the cleaning and disinfection of rooms and wards or areas in healthcare facilities occupied with suspected and confirmed COVID-19 patients.</td>
</tr>
<tr>
<td><strong>Covid19-stigma-guide</strong></td>
<td>Methods to address risk of social stigma and discriminatory behaviours against people of certain ethnic backgrounds as well as anyone perceived to have been in contact with the virus.</td>
</tr>
<tr>
<td><strong>Critical preparedness readiness and response actions COVID-10 2020-03-22_FINAL-eng</strong></td>
<td>Update to the interim guidance document. This version provides updated links to WHO guidance materials and provides the full list of WHO technical guidance available for COVID-19 and provides updated recommendations in the table.</td>
</tr>
<tr>
<td><strong>WHO-2019-nCoV-essential_health_services-2020.1-eng</strong></td>
<td>Countries will need to make difficult decisions to balance the demands of responding directly to COVID-19, while simultaneously engaging in strategic planning and coordinated action to maintain essential health service delivery, mitigating the risk of system collapse. ... Establishing effective patient flow (including screening, triage, and targeted referral of COVID-19 and non-COVID-19 cases) is essential at all levels.</td>
</tr>
<tr>
<td><strong>WHO-2019-nCov-Hand_Hygiene_ Stations-2020.1-eng</strong></td>
<td>Hand hygiene is the most effective single measure to reduce the spread of infections through multimodal strategies.</td>
</tr>
<tr>
<td><strong>WHO-2019-nCoV-HCF_operations-2020.1-eng</strong></td>
<td>To guide the care of COVID-19 patients as the response capacity of health systems is challenged; to ensure that COVID-19 patients can access life-saving treatment, without compromising public health objectives and safety of health workers.</td>
</tr>
<tr>
<td>WHO Guideline</td>
<td>Content</td>
</tr>
<tr>
<td>---------------</td>
<td>---------</td>
</tr>
<tr>
<td>WHO-2019-nCov-HCW_risk_assessment-2020.2-eng</td>
<td>This data collection form and risk assessment tool can be used to identify infection prevention and control breaches and define policies that will mitigate health care worker’s exposure and nosocomial infection (infection originating in a hospital).</td>
</tr>
<tr>
<td>WHO-2019-nCov-HCWadvice-2020.2-eng</td>
<td>This document highlights the rights and responsibilities of health workers, including the specific measures needed to protect occupational safety and health.</td>
</tr>
<tr>
<td>WHO-2019-nCov-IPC_Masks-2020.3-eng</td>
<td>It is possible that people infected with COVID-19 could transmit the virus before symptoms develop. It is important to recognize that pre-symptomatic transmission still requires the virus to be spread via infectious droplets or through touching contaminated surfaces.</td>
</tr>
<tr>
<td>WHO-2019-nCov-IPC_WASH-2020.2-eng</td>
<td>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 behaviour-change techniques.</td>
</tr>
<tr>
<td>WHO-2019-nCoV-IPCPPE_use-2020.2-eng</td>
<td>Summarizes WHO’s recommendations for the rational use of personal protective equipment (PPE) in health care and community settings, as well as during the handling of cargo.</td>
</tr>
<tr>
<td>WHO-2019-nCoV-Leveraging_GISRS-2020.1-eng</td>
<td>Several countries have demonstrated that COVID-19 transmission from one person to another can be slowed or stopped. The key actions to stop transmission include active case finding, care and isolation, contact tracing, and quarantine.</td>
</tr>
<tr>
<td>WHO-COVID-19-IPC_DBMgmt-2020.1-eng</td>
<td>Interim guidance for all those, including managers of health care facilities and mortuaries, religious and public health authorities, and families, who tend to the bodies of persons who have died of suspected or confirmed COVID-19.</td>
</tr>
<tr>
<td>WHO-WPE-GIH-2020.2-eng</td>
<td>The purpose of this document is to provide interim guidance on laboratory biosafety related to the testing of clinical specimens of patients that meet the case definition of the novel pathogen identified in Wuhan, China, that is, coronavirus disease 2019 COVID-19.</td>
</tr>
<tr>
<td>WHO 2019 Overview of the Technologies for the Treatment of Infectious and Sharp Waste from Health Care Facilities?</td>
<td>The purpose of this document is to provide 1) criteria for selecting technologies to facilitate decision making for improved health care waste management in health care facilities and 2) an overview of specific health care waste technologies for the treatment of solid infectious and sharp waste for health care facility administrators and planners, WASH and infection prevention control staff, national planners, donors and partners.</td>
</tr>
</tbody>
</table>
4 Environmental and Social Baselines

4.1 Socio-Economic Baseline

Papua New Guinea (PNG) is one of the most culturally diverse countries in the world with over 800 languages and over 1,000 distinct ethnic groups. Most of the country’s population of 8.6 million people live in rural communities and are faced with significant challenges in health, education and economic opportunity. The average national population density is low at about 14 per km². Administratively, the country is divided into 22 provinces, the National Capital District, and the autonomous region of Bougainville.

4.1.1 Vulnerable Groups

Despite having ratified six core human rights treaties, PNG still has a number of groups with a disproportionate risk of human rights deprivations and violations: women, children, the elderly, people living with HIV/AIDS, people living with disabilities and the geographically isolated. Gender equality is a significant challenge, and systemic violations of women’s rights exist throughout the country. PNG ranks 143 out of 188 countries on the UNDP gender inequality index (2015). In remote and rural areas, women and youth are at particular risk of marginalization. Women and girls have substantially less access to health care and education services than males. They are also vastly under-represented at all levels of government (only 3 out of 111 Parliamentarians are women), limiting their power to influence public policy and voice issues. In PNG society men commonly hold onto their traditional cultural practices, where tribal discipline and power allows men to have authority over their clan and family members. Men make most of the decisions in the family and control most of the resources, and women are expected to conform to various societal rules and norms. Sexual and gender-based violence is endemic in PNG, with an estimated two out of three women having personally experienced violence.

A number of social and economic challenges confront the country’s growing youth population. Only one in three children complete their basic education, meaning most do not stay in school long enough to acquire the basic learning skills. With inadequate access to formal education, lack of suitable facilities and activities and limited job training opportunities and a high unemployment rate, adolescents and youth are often unable to participate in the economy or in the development of their communities. Children and youths are exposed to the highest rate of physical and sexual violence in the East Asia and Pacific Region. Less than 20 per cent of child victims of violence have access to courts, either because of distance or cultural norms such as payment of compensation in lieu of court action.

4.1.2 Indigenous People and Culture

There are over 1000 ethnic groups in PNG and not one dominant group. Navigating differences in language, culture and custom is part of everyday life in PNG and national programs are adept at dealing with this. The project will be conducted in 10 priority provinces with the view to expanding nationally and the overwhelming majority of beneficiaries can be considered Indigenous Persons. The social impacts associated with the project will generally be positive and will not affect land or natural resources of any specific group. The main issue will be ensuring that the benefits for this diverse number of IP groups is realized, which will rely on effective communications and engagement.

4.1.3 Economy

PNG is rich in natural resources but is subject to extreme weather events and natural disasters. The economy is dominated by agriculture, fishery, and the oil/minerals sectors and is therefore exposed to
the price volatility of international commodity markets. In the absence of adequate stabilization measures, PNG has followed a ‘boom and bust’ cycle of high fluctuations in revenues and expenditures driven by changes in global commodity prices. Although economic growth averaged approximately 5.7% per year from 2002 to 2014, growth rates have subsequently slowed, in the face of subdued global commodity prices, a major drought and weak non-resource sector growth, and are estimated to average approximately 4% over the medium term. The government has undertaken prudent measures to manage the resulting fiscal pressures. Given the expected continuation of subdued commodity prices, however, domestic revenue generation and foreign currency inflows are expected to remain constrained in the near term.

The economic impacts of a COVID-19 outbreak are expected to be large, underscoring the need for an urgent response. PNG’s heavy reliance on natural resources makes the country vulnerable to global market shocks in commodity prices and weaker external demand – the close economic ties with China, the epicentre of COVID-19, will have significant ramification on the PNG economy. Furthermore, limited fiscal space and a rigid exchange rate regime constitute constraints for the authorities to react to these shocks, requiring an urgent mobilization of external financial support from development partners.

4.1.4 Health and Health-care Services

Notwithstanding its positive economic performance over the past decade, PNG’s human development indicators remain low. Poverty rates are high in PNG, and PNG’s scores on the Human Capital Index are low. Poverty rates are particularly high in rural and remote areas, with 38% of PNG’s population living below the international poverty line of US$1.90 per day (2011 US$ Purchasing Power Parity) in 2009. More than 40% of children under five years of age suffer from moderate to severe chronic malnutrition. Life expectancy at birth is 63 years; the infant mortality rate is 48 per thousand compared to a regional average of 26.5; and the maternal mortality rate is very high at 230 per 100,000 live births. Although significant progress has been made toward the Millennium Development Goals (MDGs), PNG has not yet met many of the MDG targets, such as: (4) reduce under-five child mortality by two-thirds; and (5) reduce the maternal mortality ratio by three-quarters. Lack of infrastructure facilities and service delivery mechanisms remain major constraints to economic development and to the delivery of basic services to the population. PNG has a Human Capital Index score of 0.38, which is below the East Asia and Pacific (EAP) region average (0.62) and is comparable to Sub-Saharan Africa (0.40).

PNG’s poor health outcomes reflect a weak health system with limited access to health care in a country with difficult geography, poor transportation links and a high degree of cultural diversity. Several factors within the health system contribute to poor health outcomes, including insufficient and unpredictable funding reaching frontline service providers; weak and fragmented accountability in a decentralized environment; inadequate supervision of service delivery; limited availability of critical inputs for service delivery at the facility level; and limited coverage of outreach services and community-based health service delivery in a context where a large share of the population has limited access to functioning health facilities. PNG’s population is less healthy than would be expected for a country at its income level. The burden of disease in PNG per capita is the highest in the Pacific region and much higher than the average for Low to Middle Income Countries. Furthermore, given the steady increase in the prevalence of non-communicable diseases (NCDs), PNG faces a double burden of disease. In 2017, NCDs represented 54.3% of PNG’s total Disability-Adjusted Life Years (DALYs). The burden of communicable diseases is a serious public health threat and also risks regional health security. For example, the prevalence of tuberculosis (TB) – including multidrug-resistant (MDR) TB and extensively drug-resistant
(XDR) TB – are at levels considered to be a public health emergency by the WHO; the prevalence of HIV/AIDS in PNG is the highest in the Pacific region; and the number of reported cases of malaria experienced almost a nine-fold increase between 2014 and 2017. A cholera outbreak in 2009 infected 15,500 people with 500 deaths, a Chikungunya outbreak in 2012-13 affected all 22 provinces, a measles outbreak in 2014 resulted in nearly 5,000 cases and 365 deaths and polio re-emerged in 2018 with an outbreak of vaccine-derived polio virus type 1 (cVDPV1).

Coverage of essential health services is low, and coverage/ utilization of many vital services is stagnant or declining. There are only 8 isolation beds, situated in the Port Moresby General Hospital, available for a population of 8 million people. Less than 50% of women are covered by modern methods of family planning, and only 52% of pregnant women receive at least four antenatal care (ANC) check-up. Immunization coverage rates are extremely low and declining. In 2016, only 34% of children under 1 were immunized against measles and 41% received the third dose of the pentavalent vaccine. Moreover, national averages hide important differences between provinces. While overall immunization coverage rates are low (the highest coverage rate of measles vaccines is 66 percent), there are provinces where less than one in ten children are covered.

PNG faces a shortage in health workers. There are fewer than 500 registered medical officers in PNG and their distribution across the country is uneven: while almost one fifth are based in Port Moresby, there are no medical officers in the entire province of Jiwaka. The low number of health professionals is compounded by the fact that a large share of the workforce is ageing. The density of nurses and community-health workers per 1,000 population dropped from 0.49 and 0.66 in 2009 to 0.49 in 2016 respectively. Moreover, facility survey data points to gaps in basic knowledge to deliver reproductive, maternal, new-born and child health (RMNCH) services, so existing health workers are not performing to potential. A recent survey found that the average doctor was able to correctly answer only 52% and 59% of questions on tests of basic child and maternal health services respectively. Knowledge scores for Health Extension Officers and nurses were similarly low.

4.1.5 Current Covid-19 Status
The National Department of Health (NDOH) reported on 3 May 2020 that 2402 tests for the Covid-19 virus had been conducted to date. Eight had tested positive for COVID-19, 2102 had tested negative; and 292 samples were still pending results. Of the 8 identified cases, six were mild and had fully recovered; two others were moderate cases, had been admitted to hospital and recovered, one of which was repatriated.

A total of 30,473 inbound passengers had been screened at Jacksons International Airport and the Port Moresby seaport. A total of 7,507 were identified as ‘persons of interest’ who are being monitored regularly by the Surveillance Team; of these, 7,438 (99%) had completed the 14-day follow-up period, while 69 were still on active monitoring. Majority of those monitored are in Port Moresby.

NDOH with the technical support of WHO had trained 52 trainers on surveillance, clinical management and infection prevention and control. The trainers are from National Department of Health, Port Moresby General Hospital, Central Provincial and National Capital District Health Authorities and partner NGOs such as World Vision. The Department had also commenced virtual training for provincial health authorities in surveillance, clinical management and infection prevention and control, and risk communication.
The NDOH reported that provinces were ramping up the establishment of pre-triaging areas and isolation facilities. However, most provinces did not have quarantine facilities or isolation wards, and the number of functional ICU facilities was inadequate. PPEs for isolation wards across the country was being rolled out, but the limited PPE supplies for the nation remained a concern.

4.1.6 Gender Based Violence

PNG also has high background rates of Gender-based Violence (GBV), including sexual exploitation and abuse (SEA) and sexual harassment (SH), affecting women both at home and at work. The magnitude of GBV incidence in PNG is considered by some to be of epidemic proportions. A 2015 report by the Overseas Development Institute (ODI) found that 68% of survey participants had experienced gender-based violence (GBV) during the past year, with 47% experiencing more severe forms of GBV. GBV remains substantially underreported with survivors often seeking assistance through informal support structures, such as familial, kinship or collegiate networks or village courts and community leaders rather than through official channels.

The context of GBV in Papua New Guinea, shows high prevalence, low access to services for victims and attitudes that accept, justify and reinforce men’s violence towards women. This broader context impacts on the Project because it shows that SEA and SH are likely to occur, that victims will face barriers to access services and that the attitudes of project workers and communities will likely show an acceptance for violence towards women.

4.2 Environmental Baseline

4.2.1 Solid Waste Management

The PNG government has no solid waste management strategy and limited legislation to manage waste in the country. Waste management operations are often informal and unregulated.

A total of 36 private contractors operate the municipal solid waste (MSW) collection system of Port Moresby, under arrangements with the Waste Management Division of the National Capital District Commission (NCDC). MSW is collected twice a week on average, with contractors providing their own equipment and labour. Most contractors use small, open-topped vehicles for the collection of wastes. Some contractors also collect commercial MSW, although many commercial generators either contract alternative private haulers or haul their MSW to the disposal facility themselves. The geographic area served by the system is large, but there are no transfer stations. Records of collection coverage and collection efficiencies are currently unavailable.

Although uncontrolled dumpsites and dumping grounds are reported to exist within the city limits, the only official municipal disposal facility for the disposal of Port Moresby’s waste is the Baruni dumpsite. Commencing operations several decades ago, the dumpsite comprises open dumping of piles of wastes within a confined, relatively narrow valley on the city’s outskirts. The facility is unfenced, although government workers are employed to maintain security and order. The dumpsite lacks engineered

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2 Ibid.
3 WHO (2009). *Environmental and Social Safeguards for National Capital District and Western Province*
environmental protection systems, such as for basal lining or leachate and landfill gas collection. The wastes are completely uncovered and exposed to the elements. Scavengers scour the waste mounds to recover recyclable materials and set fire to the wastes to extract metals from waste components. The internal haul roads are poorly maintained, and the waste placement methodology is disorganized\(^5\).

The few incinerators present in the country are old and have poor combustion efficiency and operational availability at best, and recent reviews have observed that they are no longer in use. In the National Capital District, two replacement incinerator units may be commissioned by a JICA funded project, to be located at the existing Baruni facility, subject to local acceptance\(^6\).

### 4.2.2 Health-care Waste Management

The National Department of Health (NDOH) is responsible for medical waste management including the formulation of laws and policies; and the collection, treatment, and disposal of medical wastes.

Health-care waste disposal methods vary by province. Some efforts are being made to segregate and manage health-care wastes. There are 19 public hospitals in PNG that operate a color-coded bag system for the collection, storage, and transfer of medical wastes: green (general waste), pink (radioactive waste), and red (hazardous chemical waste). Containers are also provided for the safe disposal of sharps\(^7\).

However, the health and environmental risks from the poor management of health-care wastes are high due to inadequate policy, legislation and guidelines, poor management and maintenance of health-care waste handling, treatment and disposal facilities, lack of financial resources, lack of understanding of the risks and lack of training and capacity building of personnel involved in health-care waste management\(^8\). The draft SPREP Guidelines for Health-care Waste Management in Papua New Guinea found that the definition and classification of health-care wastes was not clear, there is inadequate identification on waste containers, some infectious waste could be found in containers of general waste, there is often no clear definition regarding responsibility for health-care waste management in organizational structures, tracking of health-care waste is inadequate. Furthermore, PacWaste conducted a health-care waste management baseline survey in July 2014, through which information was collected on current waste management processes, from ward level waste generation through to treatment and disposal. The audit was conducted at Port Moresby General Hospital – Papua New Guinea’s largest hospital. The survey identified the need for improved storage, treatment and disposal solutions for health-care at the hospital, but particularly in the area of waste segregation\(^9\).

The incinerators installed at the public hospitals are old and many have ceased to function; their replacement and proper operation are being hampered by lack of funding. According to NDOH, approximately 50% of the Provincial Hospitals have incinerators, but they all need replacement. The

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\(^8\) PacWaste (2017) *Country Profile: PNG*

incinerator at the general hospital in Port Moresby has not functioned for several years, resulting in all medical wastes being buried in Baruni dumpsite without treatment.

4.3 National COVID-19 Response
PNG activated the National Emergency Response Operation Committee (NEOC) on 27th January 2020. On March 22, 2020 COVID-19 was declared a national security concern and the Prime Minister declared a State of Emergency for 14 days introducing a series of measures to restrict international and internal movement, including stopping all international flights and domestic flights as well as school closures. The State of Emergency was extended until the end of May 2020 on April 2. A Ministerial Taskforce committee chaired by the Minister of Health and HIV/AIDS provides strategic leadership and guidance to the emergency preparedness and response effort. A National Emergency Response Plan has been developed with support from the World Health Organization (WHO). A budget of Kina 45 million has been authorized to support the response, with Kina 23 million released to the NDOH so far. The GoPNG is now seeking additional resources for the National Emergency Response Plan and has approached development partners for support, including the World Bank.

4.3.1 Testing for COVID-19
The Institute of Medical Research (IMR) in Goroka, Eastern Highlands Province, a regional centre of excellence for tropical medicine research, is the only laboratory in PNG that is currently testing for COVID-19. The IMR has 2 PCR machines which can currently test a maximum of 300 samples a day each. A second critical gap relates to the transportation of samples from collection sites to IMR. Samples are currently transported between provinces by air using courier companies contracted by NDOH, or by road. Cash flow constraints and poor transportation links often create delays in transporting samples. Not all provinces have direct air links to Goroka, where IMR is located. This can further lengthen the turnaround time to obtaining test results and responding appropriately. PNG has about 50 GeneXpert machines in all provinces which could be used to screen for COVID-19 as they are currently underutilized.

5 Environment and Social Risks, Potential Impacts and Mitigation
The project will have long term positive environmental and social impacts, insofar as it should improve COVID-19 surveillance, monitoring, treatment and containment. Nevertheless, in the short-term the environmental and social risks are considered to be Substantial.

5.1 Summary of Main Environmental Risks
The main environmental risks identified are: (i) the occupational health and safety issues related to testing and handling of supplies and the possibility that they are not safely used by laboratory technicians and medical crews; (ii) the occupational health and safety (OHS) issues for medical staff and employees related to the treatment of COVID-19 patients; and (iii) medical waste management and community health and safety issues related to the handling, transportation and disposal of hazardous and infectious health-care waste.

As no civil works, other than the installation modular laboratories, incinerators, and refurbishments of health-care facilities for isolation centres, are to be undertaken, environmental risks associated with these works are expected to be minor and readily mitigated. The Project is not expected to generate large volumes of medical waste with high population proximity exposed to this waste. PNG’s poor track
record in containing and managing epidemics and contagious diseases in recent years (TB, cholera, chikungunya, measles, polio), low coverage and investment in essential health services, lack of comprehensive waste legislation, strategies, resources and facilities, etc. exacerbate the environmental risks despite the availability of readily implementable and effective mitigation measures in the form of WHO guidance, World Bank Environmental Health and Safety (EHS) Guidelines and other good international industry practice (GIIP). While the contextual environmental risks are assessed to be High, due to the resulting low probability of serious adverse effects to human health from exposure to medical waste, and the fact there are known and reliable mechanisms available to prevent or minimize such exposure, the environmental risk is assessed to be Substantial.

5.2 Summary of Main Social Risks
The social risks are considered Substantial. While some social risks and impacts are significant, they are considered temporary, predictable, and readily managed through project design features and mitigation measures. NDOH’s capacity and systems, while limited in overall social management, can be addressed through the recruitment of experienced E&S specialists and development and implementation of project procedures and systems. Management of social risk will be further strengthened by the contracting of UNICEF which has considerable experience in implementing health initiatives in PNG.

No land acquisition or involuntary resettlement impacts are expected. All activities will be conducted within existing government facilities/grounds and no new land will be acquired or accessed.

A key social risk is the potential for inequitable access to project supported facilities and services particularly for vulnerable and high-risk social groups (poor, disabled, elderly, isolated groups). Real or perceived inequities also have the potential to lead to social tensions, conflict and civil unrest. To mitigate this risk NDOH has committed in the ESCP to the provision of services and supplies to all people, regardless of their social status, based on the urgency of the need, in line with the latest data related to the prevalence of the cases, and the implementation of WHO guidance tools for COVID-19 risk communication and engagement.

All project activities ranging from the operation of laboratories to community engagement activities present a risk of transmission in the community. The operation of laboratories, health centres (including isolation centres) have a high potential of carrying micro-organisms that can infect the community at large if they are not properly managed and controlled. This section outlines procedures for each project activity commensurate to the risk. The IPC&WMP (Annex IV) contains procedures, based on WHO guidance, for the safe operation of health facilities and protection of the public from exposure to the virus as a result of these operations. In addition, the project’s Stakeholder Engagement Plan (SEP) will ensure widespread engagement with communities - including its more vulnerable groups - to disseminate information related to community health and safety, particularly about social distancing, high-risk demographics, self-quarantine, and mandatory quarantine.

PNG has high background rates of Gender-based Violence. The project workforce - both those directly employed or engaged to work on the project and those engaged by third party contractors – may be at risk of sexual exploitation and abuse (SEA) and sexual harassment (SH). SEA and SH risks will be assessed and addressed during implementation, including screening and adopting appropriate measures to prevent and mitigate the SEA/SH risks. To mitigate these risks, the NDOH, in the ESCP, is committed
to the implementation of the WHO Code of Ethics and Professional Conduct which includes provisions for SEA/SH prevention.

5.3 Preliminary Risk Analysis
The following tables provide a preliminary analysis of the type of project activities identified, potential social and environmental impacts that may result from the project activities, key mitigation methods for residual impacts, and environmental and social risk management tools that are required.
## Table 3 – Assessment of key project risks/impacts and proposed mitigation methods – planning and design stage

<table>
<thead>
<tr>
<th>Activity</th>
<th>Significant Potential Risks / Impacts</th>
<th>Key Mitigation Methods</th>
<th>E&amp;S Risk Management Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Planning and Design Stage</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Procurement of goods e.g. PPE (sub-components 1.3 &amp; 2.2).</strong></td>
<td>Failures in procurement process e.g. incorrect standard or quality of PPE leads to spread of infection to health-care workers. Procurement and use of goods will not be sustainable.</td>
<td>Due diligence and assessments will be undertaken by UNICEF and UNOPS to ensure fit for purpose equipment is procured. UNOPS and UNICEF purchases will follow the WHO interim guidance on <a href="https://www.who.int/publications/m/item/management-of-personal-protection-equipment-against-covid-19">rational use of PPE for coronavirus disease 2019</a> which describes the types of PPE that are required for different functions. Sustainable use of goods and materials will be encouraged through capacity building and training of health service personnel.</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Procurement of equipment e.g. laboratory equipment and machines, medical equipment, waste management equipment including incinerators etc. (sub-components 2.1 &amp; 2.2).</strong></td>
<td>Failures in procurement process e.g. equipment that is inappropriate and could lead to: • spread of infection to health-care workers and/or cleaners. • causes health &amp; safety risks to workers. • causes adverse environmental harm.</td>
<td>Due diligence and assessments will be undertaken by UNICEF and UNOPS regarding purchase of equipment to ensure correct fit for purpose equipment is procured to PNG standards. World Bank, NDOH and CEPA to review and have input on incinerator specifications.</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Design of medical waste facility (sub-component 2.2).</strong></td>
<td>Design of waste management facility is inappropriate, does not allow for the separation of infectious and non-infectious waste increasing the risk of spreading COVID-19.</td>
<td>Design of facility will follow guidance from WHO and/or CDC on health-care waste management and infection prevention control as detailed in the IPC&amp;WMP (Annex IV).</td>
<td>IPC&amp;WMP</td>
</tr>
<tr>
<td><strong>Design of laboratory (sub-components 2.1 &amp; 2.2).</strong></td>
<td>Location of laboratory requires temporary or permanent land acquisition. Design of laboratory does not meet requirements for biosafety.</td>
<td>All activities will be conducted within existing government facilities/grounds and no new land will be acquired or accessed. Due diligence and screening using the Project’s CoESP will ensure that appropriate sites are utilized for project infrastructure activities.</td>
<td>CoESP</td>
</tr>
<tr>
<td>Activity</td>
<td>Significant Potential Risks / Impacts</td>
<td>Key Mitigation Methods</td>
<td>E&amp;S Risk Management Tools</td>
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</tr>
<tr>
<td>Laboratory facilities that are not covered by adequate life and fire safety (L&amp;FS) risk assessment and mitigation measures.</td>
<td>Design of laboratory will follow WHO Laboratory biosafety guidance related to coronavirus disease 2019 (COVID-19). L&amp;FS master planning will be included in the design of the new facilities in line with GIIP and national legal requirements. NDOH will ensure that all national legal L&amp;FS requirements are met, upon completion of the installation. The laboratory should be provided with Fire Detection and Alarm; Means of Egress; Fire Control and Suppression; Smoke Control.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design of medical isolation centres (sub-component 2.2).</td>
<td>Design of health-care facilities does not meet layout and engineering requirements for nosocomial infection control, increasing risk of spreading COVID-19 in health facilities. Design of new facilities does not consider universal access e.g. women, children, elderly, and users with disabilities. Medical isolation centres that are not covered by adequate life and fire safety (L&amp;FS) risk assessment and mitigation measures.</td>
<td>Design of facility will reflect guidance from WHO and/or CDC on COVID-19 management and infection control as detailed in the Project’s CoESP. Consideration of the need for differentiated access for different users of the facilities in the design as detailed in the CoESP. Consultation in accordance with the SEP. L&amp;FS master planning will be included in the design of the new facilities in line with GIIP and national legal requirements. NDOH will ensure that all national legal L&amp;FS requirements are met, upon completion of the construction. The isolation centres should be provided with Fire Detection and Alarm; Means of Egress; Fire Control and Suppression; Smoke Control. Project’s Stakeholder Engagement Plan (SEP) will ensure widespread engagement with communities - including its more vulnerable groups - to disseminate information related to community health and safety.</td>
<td>CoESP SEP</td>
</tr>
</tbody>
</table>
Table 4 – Assessment of key project risks/impacts and proposed mitigation methods – construction stage

<table>
<thead>
<tr>
<th>Activity</th>
<th>Significant Potential Risks / Impacts</th>
<th>Key Mitigation Methods</th>
<th>E&amp;S Risk Management Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Stage</td>
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<tr>
<td>Construction, installation and/or renovation of existing buildings, such as:</td>
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<tr>
<td>• medical isolation centres (sub-component 2.2).</td>
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<td></td>
</tr>
<tr>
<td>• Laboratories (sub-component 2.1).</td>
<td></td>
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<td></td>
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<tr>
<td>• Incinerators and/or incinerator housings (sub-component 2.2).</td>
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</tr>
<tr>
<td>Minor civil works may generate limited adverse environmental impacts such as dust, noise, vibration, waste, solid waste, traffic obstruction and occupational and/or community health and safety.</td>
<td>Construction and renovation impacts addressed in project’s Code of Environmental and Social Practice (CoESP).</td>
<td>CoESP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asbestos, lead paints, SMF, ozone depleting substances (from old air conditioning units) and PCBs may be present in old health-care facilities or in construction debris.</td>
<td>Construction/Renovation Waste Management Plan(s) to be developed during project by the contractor.</td>
<td>Construction/Renovation Waste Management Plan(s)</td>
</tr>
<tr>
<td></td>
<td>Increase in sexual exploitation and abuse/harassment (SEA/H) related to project workforce</td>
<td>Construction/Renovation Health and Safety (H&amp;S) management plan(s) to be developed during project by the contractor, and construction/renovation works completed accordingly.</td>
<td>LMP</td>
</tr>
<tr>
<td></td>
<td>Issues related to inappropriate worker accommodations which further spread COVID-19.</td>
<td>Hazardous material assessment &amp; management procedure detailed in Construction/Renovation Waste Management Plan(s) to be developed during project by the contractor in accordance with good international industry practice (GIIP). Building inspection that identifies whether asbestos or other hazardous materials are present prior to demolition. Asbestos containing materials managed in accordance with GIIP. No asbestos containing materials used for construction.</td>
<td>GM</td>
</tr>
<tr>
<td></td>
<td>Cultural heritage impacts.</td>
<td>SEA and SH risks will be assessed during implementation through the ESMF, including screening and adopting appropriate measures to prevent and mitigate the SEA/SH risks. NDOH, in the ESCP, committed to implementation of WHO Code of Ethics and Professional Conduct, including provisions for SEA/SH prevention.</td>
<td>CFP</td>
</tr>
<tr>
<td></td>
<td>Labour issues including working conditions, OHS, SEA/S addressed in Project’s LMP and CoESP. Implementation of Code of Conduct. Provide separate facilities for female and male workers. Project Grievance Mechanism (GM) available to enable communities to raise project related concerns and grievances. Chance Finds Procedure (CFP) in place (Annex III)</td>
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</table>
### Table 5 – Assessment of key project risks/impacts and proposed mitigation methods – operational stage

<table>
<thead>
<tr>
<th>Activity</th>
<th>Significant Potential Risks / Impacts</th>
<th>Key Mitigation Methods</th>
<th>E&amp;S Risk Management Tools</th>
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<tbody>
<tr>
<td><strong>Operational Stage</strong></td>
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<tr>
<td><strong>Operation of the medical isolation centres / laboratory – Health-Care Workers Health and Safety (sub-components 2.1 &amp; 2.2).</strong></td>
<td>Occupational health and safety risks related to exposure to infections / diseases e.g. from testing, laboratory and health care waste, treatment of COVID-19 patients etc. Surfaces of imported materials maybe contaminated during handling and transportation which may result in the spread of infection. Occupational health and safety risks related to the delivery and storage of goods, including samples, pharmaceuticals, reagents and other hazardous materials. Occupational health and safety risks related to the use of X-ray machines such as exposure to high radiation levels. General occupational health and safety risks from working in a medical facility /laboratory e.g. manual handling injuries, such as sprains and strains from lifting and carrying patients; falls, trips, and slips; injuries caused by moving objects; and mental stress fatigue, psychological distress, stigma.</td>
<td>A Labour Management Procedure (LMP) developed and implemented to protect project direct workers and contracted staff who may be at risk of exposure to infected patients, hazardous waste etc. Infection Prevention Control and Health Care Waste Management Plan (IPC&amp;WMP) developed and implemented. If concerned about contaminated imported materials (for example when dealing with goods that have come from countries with high numbers of infected people) equipment may be decontaminated using disinfectant. After disinfecting, workers should wash hands with soap and water or use alcohol-based hand rub. Follow GIIP for safe operation of x-ray machines such as the Radiological Hazards section in the <a href="#">IFC EHS Guidelines – 2.0 Occupational Health and Safety</a>. Worker H&amp;S Management plans will be developed through Component 3. Development of H&amp;S plans will refer to <a href="#">IFC EHS Guidelines – 2.0 Occupational Health and Safety</a>. Clear communication of risks and prevention measures will be included in training and stakeholder engagement activities.</td>
<td>LMP IPC&amp;WMP Worker H&amp;S plans</td>
</tr>
<tr>
<td><strong>Operation of the medical isolation centres / laboratory –</strong> Improper collection of samples and testing for COVID-19 and appropriate laboratory biosafety could result in spread of disease to medical workers</td>
<td>Collection of samples, transport of samples and testing of the clinical specimens from patients meeting the suspect</td>
<td></td>
<td>LMP IPC&amp;WMP</td>
</tr>
<tr>
<td>Activity</td>
<td>Significant Potential Risks / Impacts</td>
<td>Key Mitigation Methods</td>
<td>E&amp;S Risk Management Tools</td>
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<tr>
<td>COVID-19 testing and diagnosis (sub-components 2.1 &amp; 2.2).</td>
<td>or laboratory workers, or population during the transport of potentially affected samples.</td>
<td>case definition will be performed in accordance with WHO interim guidance <a href="https://www.who.int/publications/i/item/2020.11">Laboratory testing for coronavirus disease 2019 (COVID-19) in suspected human cases</a>. Tests will be performed in appropriately equipped laboratories (specimen handling for molecular testing requires BSL-2 or equivalent facilities) by staff trained in the relevant technical and safety procedures. National guidelines on laboratory biosafety will be followed. There is still limited information on the risk posed by COVID-19, but all procedures will 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="https://www.who.int/publications/i/item/2020.11">laboratory biosafety related to 2019-nCoV</a>. Samples that are potentially infectious materials (PIM) will be handled and stored as described in WHO <a href="https://www.who.int/publications/i/item/2020.11">guidance to minimize risks for facilities collecting, handling or storing materials potentially infectious for polioviruses (PIM Guidance)</a>. For general laboratory biosafety guidelines, see the WHO <a href="https://www.who.int/publications/i/item/2020.11">Laboratory Biosafety Manual, 3rd edition</a>.</td>
<td></td>
</tr>
</tbody>
</table>
| Operation of the medical isolation centres / laboratory - isolation, care and treatment of COVID-19 patients in healthcare facilities | Weak compliance with the precaution measures for infection prevention and control in isolation and treatment of infected cases spreads COVID-19 infections in healthcare facilities. | Health facilities will follow the IPC&WMP and establish and apply Standard Precautions including:  
• Hand Hygiene (HH);  
• Respiratory hygiene/cough etiquette.  
• Use of personal protective equipment (PPE);  
• Handling of patient care equipment, and soiled linen;  
• Environmental cleaning;  
• Prevention of needle-stick/sharp injuries; | IPC&WMP |
<table>
<thead>
<tr>
<th>Activity</th>
<th>Significant Potential Risks / Impacts</th>
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<th>E&amp;S Risk Management Tools</th>
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<tr>
<td>(sub-components 2.1 &amp; 2.2).</td>
<td></td>
<td>• Appropriate Health Care Waste Management. In addition, health facilities will establish and apply transmission-based precautions (contact, droplet, and airborne precautions) as well as specific procedures for managing patients in isolation room/unit. Establishment of standard precautions and transmission-based precautions will be in line with National guidelines for IPC in healthcare facilities and take into account guidance from WHO and/or CDC on COVID-19 infection control: ✓ WHO interim guidance on <em>Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected</em>; ✓ WHO guidance on <em>infection prevention and control at health care facilities (with a focus on settings with limited resources)</em>; ✓ CDC Guidelines for <em>isolation precautions: preventing transmissions of infectious agents in healthcare settings</em>; and ✓ CDC <em>guidelines for environmental infection control in healthcare facilities</em>. Special considerations will be made to address the particular needs of vulnerable groups in delivering these services.</td>
<td></td>
</tr>
<tr>
<td>Operation of the medical isolation centres / laboratory – Generation of health care wastes (sub-components 2.1 &amp; 2.2).</td>
<td>Medical waste management and community health and safety issues related to the handling, transportation and disposal of hazardous and infectious health-care wastes. Offsite disposal facilities (if used) do not comply with standards required by transport and disposal regulations and for licensing of transport vehicles.</td>
<td>Project IPC&amp;WMP developed and implemented to ensure the correct separation, storage, transport and disposal of health care wastes (both infectious, hazardous and non-infectious wastes). Health-care Facility Waste Management plans will be developed through Component 3 during project implementation.</td>
<td>IPC&amp;WMP Health-care Facility Waste Management Plans developed through component 3</td>
</tr>
<tr>
<td>Activity</td>
<td>Significant Potential Risks / Impacts</td>
<td>Key Mitigation Methods</td>
<td>E&amp;S Risk Management Tools</td>
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<tr>
<td><strong>Operation of the medical isolation centres / laboratory – Poor sanitation and improper management of wastewater (sub-components 2.1 &amp; 2.2).</strong></td>
<td>Poor sanitation and improper management of wastewater related to COVID-19 diagnosis and treatment services transmitting diseases to communities and polluting environment.</td>
<td>Health facilities will ensure the provision of safe water, sanitation, and hygienic conditions, which is essential to protecting human health during all infectious disease outbreaks, including the COVID-19 outbreak. Health facilities will establish and apply good practices in line with WHO guidance on water, sanitation and waste management for COVID-19, the National Infection Prevention and Control Policy 2018, and the IPC&amp;WMP.</td>
<td>IPC&amp;WMP</td>
</tr>
<tr>
<td><strong>Operation of medical isolation centres / laboratory / waste facilities – Community impacts (sub-components 2.1 &amp; 2.2).</strong></td>
<td>Risk of transmission in the community from project activities e.g. operation of the laboratory, incinerators, etc. if they are not properly managed and controlled. Wider public and patients are not treated with respect for their dignity, human rights and fundamental freedoms.</td>
<td>The IPC&amp;WMP contains detailed procedures, based on WHO guidance, for the safe operation of health facilities and protection of the public from exposure to the virus as a result of these operations. The project’s Stakeholder Engagement Plan (SEP) will ensure widespread engagement with communities - including its more vulnerable groups - to disseminate information related to community health and safety, particularly about social distancing, high-risk demographics, self-quarantine, and mandatory quarantine. Grievance mechanism (GM) enables communities to raise project related concerns and grievances</td>
<td>IPC&amp;WMP SEP/GRM</td>
</tr>
</tbody>
</table>

The Project will invest in the procurement of appropriate waste management infrastructure, including containers, PPE, high pressure autoclaves and/or incinerators. Training of medical, laboratory and waste management personnel financed under sub-component 1.3 to ensure compliance with the IPC&WMP, National Infection Prevention and Control Policy 2018, WHO guidance and GIIP.
<table>
<thead>
<tr>
<th>Activity</th>
<th>Significant Potential Risks / Impacts</th>
<th>Key Mitigation Methods</th>
<th>E&amp;S Risk Management Tools</th>
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</thead>
<tbody>
<tr>
<td>The operation of isolation centres will be implemented in a way that both the wider public, as well as the patients are treated in line with international best practice as outlined in WHO guidelines. Patients will be treated with respect for their dignity, human rights and fundamental freedoms and minimize any discomfort or distress associated with such measures taking into consideration their gender, sociocultural, ethnic or religious needs. NDOH has committed to the implementation of the WHO Code of Ethics and Professional Conduct which includes provisions for SEA/SH prevention in the project ESCP.</td>
<td></td>
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</tr>
<tr>
<td>Marginalized and vulnerable social groups are unable to access facilities and services designed to combat the disease, in a way that undermines the central objectives of the project. NDOH, in the ESCP, committed to the provision of services and supplies to all people, regardless of their social status based on the urgency of the need, in line with the latest data related to the prevalence of the cases.</td>
<td></td>
<td>SEP</td>
<td></td>
</tr>
<tr>
<td>Air quality negatively impacted by incinerators e.g. POP emissions when not operated at the correct temperatures. Operation of incinerators is not hot enough to kill the virus. Lack of ongoing maintenance causing incinerators to no longer operate. Incorrect disposal of ash causing adverse environmental impacts and/or spreading the virus.</td>
<td>The incinerators may be classified as a level 2(B) activity, depending on the amount of waste that is incinerated per year. This will be determined during project implementation. The PCU will follow the PNG environmental permit process to identify what level of permit is required and apply the identified conditions for the incinerators, including installation of scrubbers on the stacks to mitigate air emissions per CEPA recommendations. PCU will develop ESMP(s) for the incinerators and screen for sensitive receptors e.g. schools, day care facilities, patient wards, residential areas. Training for operators on the method of operation to achieve the desired combustion conditions and emissions will be provided under sub-component 1.3; for example, Environmental Permit (PNG) (if required) / ESMP (WB)</td>
<td></td>
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</tr>
<tr>
<td>Activity</td>
<td>Significant Potential Risks / Impacts</td>
<td>Key Mitigation Methods</td>
<td>E&amp;S Risk Management Tools</td>
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<tr>
<td>Use of goods including PPE (sub-components 1.3 &amp; 2.2).</td>
<td>Incorrect use of PPE leads to spread of infection to health-care workers and cleaners. Inequitable distribution of goods. Negative reaction to perceived unfairness of resource distribution.</td>
<td>Clear communication of risks and prevention measures will be included in training and stakeholder engagement activities. NDOH has committed to the provision of services and supplies to all people in the project ESCP.</td>
<td>SEP</td>
</tr>
<tr>
<td>Transboundary transport of COVID-19 samples (sub-component 2.1).</td>
<td>Improper transport methods of samples from PCR Labs in PNG that are testing samples for COVID-19 to an Australian reference lab could result in spread of disease to medical workers, laboratory workers, or general population.</td>
<td>Transport of specimens will be performed in accordance with WHO interim guidelines on specimen collection and shipment: Laboratory testing for coronavirus disease 2019 (COVID-19) in suspected human cases.</td>
<td>N/A</td>
</tr>
<tr>
<td>Technical assistance activities including training and capacity building programs (Sub-component 1.3).</td>
<td>Outcomes that are contrary to health-care workers’ well-being and/or activities have adverse environmental impacts. Negative reaction to perceived unfairness of health-care workers’ access to training.</td>
<td>Environmental and social clauses have been included in the contractor’s contracts (UNICEF/UNOPS). Environmental, social, and health and safety best practices incorporated into training and capacity building programs. PCU social and environmental specialists will review UNICEF interim and progress reports to ensure that environmental and social mitigation measures are in place.</td>
<td>SEP/GM</td>
</tr>
<tr>
<td>Activity</td>
<td>Significant Potential Risks / Impacts</td>
<td>Key Mitigation Methods</td>
<td>E&amp;S Risk Management Tools</td>
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<tr>
<td>Risk Communication and Community Engagement (Sub-component 1.1)</td>
<td>Presence of project workers working in rural communities and non-adherence to acceptable cultural norms. On-ground public engagement exercises have the potential to contribute to virus transmission. Increase in sexual exploitation and abuse/harassment (SEA/H) related to project workforce Outreach campaigns do not meet the needs of the public e.g. inappropriate information and communication increases social stigma with those who expose or are infected by virus.</td>
<td>Project objectives and operational strategies clearly communicated through SEP to address any perception of inequitable access to training. GM to address concerns regarding distribution of project benefits. Labour issues addressed in LMP. Workers must wear correct PPE and follow hand hygiene (HH) and respiratory hygiene/cough etiquette. SEP implementation will ensure RCCE activities address potential issues. SEA and SH risks will be assessed during implementation through the ESMF, including screening and adopting appropriate measures to prevent and mitigate the SEA/SH risks. NDOH, in the ESCP, committed to implementation of WHO Code of Ethics and Professional Conduct, including provisions for SEA/SH prevention. Grievance mechanism (GM) available to enable communities to raise project related concerns and grievances.</td>
<td>LMP SEP/GM</td>
</tr>
<tr>
<td>Use of Military Forces and/or Security Personnel to Assist in Covid-19 operations.</td>
<td>Potential risks include: • Diversion of materials, aid and assistance. Diversion can take the form of confiscations and re-use, misappropriation and theft. • Allegations of human rights violations including Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH). • World Bank staff are put at risk e.g. when Bank staff are trying to address the risk of diversion.</td>
<td>The project is not expected to utilize security forces or security personnel in relation to project activities. If security forces or security personnel are mobilized, the Project will take measures to ensure that, prior to deployment such personnel are: (i) screened to confirm that they have not engaged in past unlawful or abusive behaviour, including sexual exploitation and abuse (SEA), sexual harassment (SH) or excessive use of force; (ii) adequately instructed and trained, on a regular basis, on</td>
<td>N/A</td>
</tr>
<tr>
<td>Activity</td>
<td>Significant Potential Risks / Impacts</td>
<td>Key Mitigation Methods</td>
<td>E&amp;S Risk Management Tools</td>
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|          | • International media negative commentary and reaction. | the use of force and appropriate behaviour and conduct (including in relation to SEA and SH), as set out in the ESMF; and (iii) deployed in a manner consistent with applicable national law. | }
### Table 6 – Assessment of key project risks/impacts and proposed mitigation methods – decommissioning stage

<table>
<thead>
<tr>
<th>Activity</th>
<th>Significant Potential Risks / Impacts</th>
<th>Key Mitigation Methods</th>
<th>E&amp;S Risk Management Tools</th>
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</thead>
<tbody>
<tr>
<td><strong>Decommissioning Stage</strong></td>
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</tr>
<tr>
<td>Decommissioning of equipment e.g. x-ray machines (sub-components 2.1 &amp; 2.2)</td>
<td>Inappropriate decommissioning practices and disposal of equipment and machines e.g. x-ray machines that cause transmission of virus and/or environmental impacts. Worker and/or community health and safety risks from left over equipment.</td>
<td>Follow decommissioning procedure included in the CoESP. Waste minimization and management measures detailed in Decommissioning Waste Management Plan(s) to be developed during project by contractor. Health and Safety (H&amp;S) Management Plan(s) to be developed during project by the contractor, and construction works completed accordingly.</td>
<td>CoESP Decommissioning Waste Management Plan(s) H&amp;S Management Plan(s)</td>
</tr>
<tr>
<td>Decommissioning of the isolation centres and laboratory sub-components 2.1 &amp; 2.2.</td>
<td>Minor civil works may generate limited adverse environmental impacts such as dust, noise, vibration, waste, solid waste, traffic obstruction and occupational and/or community health and safety. Worker and/or community health and safety risks from left over health-care waste and/or equipment Increase in sexual exploitation and abuse/harassment (SEA/SH) related to project workforce</td>
<td>Follow decommissioning procedure included in the CoESP. Waste minimization and management measures detailed in Decommissioning Waste Management Plan(s) to be developed during project by contractor. Health and Safety (H&amp;S) Management Plan(s) to be developed during project by the contractor, and construction works completed accordingly. Labour issues including working conditions, OHS, SEA/SH addressed in Project’s LMP and CoESP. Implementation of Code of Conduct. Provide separate facilities for female and male workers. Project Grievance Mechanism (GM) enables communities to raise project related concerns and grievances.</td>
<td>CoESP Decommissioning Waste Management Plan(s) H&amp;S Management Plan(s) LMP GM</td>
</tr>
</tbody>
</table>
6 Procedures to Address Environmental and Social Issues

6.1 Overview of the Screening Process

The screening process will be used to screen all project activities for risks and then identify the environmental and social risk management tools that need to be prepared or followed. The purpose of the screening is to: (i) determine whether activities are likely to have potential negative environmental and social risks and impacts; (ii) identify appropriate mitigation measures for activities with adverse risks or impacts; (iii) incorporate mitigation measures into implementation of the activity; (iv) review and approve the management plan and (v) monitor application of management plans for those activities requiring E&S due diligence.

The project typologies identified as requiring environmental and social screening and management during implementation of the Project include; refurbishment, operation, and decommissioning of the isolation centres; installation and operation of the laboratory; technical assistance activities; procurement of goods and supplies; and communication and behaviour change interventions.

The ESHS&CE Specialist, supported by the International ESHS Specialist (E&S Specialists), will undertake the environmental screening, preparation and disclosure of site-specific instruments and CEPA permit applications, consultation and information dissemination activities with relevant stakeholders. Responsibilities for implementing these procedures are outlined in further detail in Section 8. The screening process should be reviewed after six months of project implementation by the E&S Specialist/s within the PCU to ensure the process is appropriate.

6.2 Screening of Project Activities

The following provides the steps that will be undertaken in the assessment of project activities. The screening of activities will take place either during the annual work plan or on ad hoc basis as activities are defined by the Project Team/s. The screening process will follow the key steps in Figure 2:
Figure 2 – Key Activity Screening Steps

Step 1 - Determine Activity Category
The first step of screening is to determine what type of activity is being proposed and determine the immediate next step. To determine the project activity category, refer to Figure 3 – Activity Screening Process.

Step 2 - Determine Eligibility
If the activity has been pre-screened as part of Chapter 5 and is eligible for project funding, proceed directly to Step 3 – Determine Environmental and Social (E&S) Risk Management Tool/s.
If the activity has not been pre-screened as part of Chapter 5, and E&S risk management tool/s already identified, the next step is to complete the Screening Form for Potential Env & Social Issues (Annex VI) and check Table 7 – Ineligible Activities to determine the activities eligibility for project funding and to screen for risks. The purpose of screening is to (i) determine whether activities are eligible to be financed, and likely to have potential negative environmental and social risks and impacts; and (ii) identify appropriate mitigation measures for activities with adverse risks or impacts.

**Step 3 – Determine E&S Risk Management Tool/s**

The third step is to determine what specific E&S risk management tool/s are required or apply, if any, under World Bank and PNG E&S risk management requirements. The project activity screening process (Figure 3 – Activity Screening Process) will assist in determining the E&S risk management tool/s that need to be prepared or followed.

**Step 4: Consultation with Project Team**

If required, the screening outcomes will be discussed with the project team and design personnel to identify ways to reduce or avoid any adverse impacts. Any adjustments to the design, categorization or E&S risk management tool/s can be refined following this process.

**Step 5: Preparation and Disclosure of E&S Risk Management Tools**

If required, the next step is to prepare the relevant E&S risk management tool/s, both for PNG and the WB processes. This process may include site visits and data gathering, consultation, and public disclosure of the documents in accordance with the Section 7 – Consultation and Stakeholder Engagement.

**Step 6 - Procurement Due Diligence**

Determine if procurement is required for the activity. If yes then ESHS provisions will be incorporated into bidding documents, in accordance with the new World Bank Procurement Framework.

**Step 7: Implementation of Mitigation Measures**

The implementation of the E&S risk management tool/s and conditions of any environmental approvals will need to be implemented, monitored and enforced. Training of implementing staff may be needed to ensure that conditions of the E&S risk management tool/s are met. For contractors, monitoring and supervision will be needed to ensure that conditions of the E&S risk management tool/s are met.

**Step 8: Monitoring and Reporting**

Monitoring is required to gather information to determine the effectiveness of implemented mitigation and management measures and to ensure compliance with the approved E&S risk management tool/s. Monitoring methods must provide assurance that E&S risk management tool/s measures are undertaken effectively.

Six-monthly reports will need to be prepared and provided to the WB. The semi-annual E&S monitoring reports to the Bank will include: (i) the status of the implementation of mitigation measures; and (ii) the findings of monitoring programs (iii) stakeholder engagement activities (iv) grievances log (v) any incidents/accidents with adverse impacts and the actions taken to address it and prevent reoccurrence.
Figure 3 – Activity Screening Process

Is it a RCCE Program?

Yes

Refer to the LMP. Follow the SEP. Ensure GM in place.

No

Is it the design or installation of a medical isolation center or laboratory?

Yes

Refer to mitigation methods set out in Table 3 of the ESMF.

No

Transport should be performed in accordance with WHO interim guidelines on specimen collection and shipment.

Is it the operation of the medical isolation centers or laboratory?

Yes

Refer to the IPC&WMP and LMP. Develop Waste Management Plan and Worker Health & Safety Plan. Refer to additional mitigation methods set out in Table 5.

No

Is it transboundary sample transport?

Yes


No

Refer to mitigation methods set out in Table 5 of the ESMF.

Is it the procurement of goods or equipment?

Yes

Refer to CoESP, LMP, SEP. Contractor prepares & follows Construction/Renovation Waste Management Plan & Construction/Renovation H&S Plan. Ensure GM & CFP are in place.

No

Is it a training and/or capacity building activity?

Yes

Refer to mitigation methods set out in Table 5 of the ESMF.

No

Is it an incinerator?

Yes


No

Is it decommissioning of isolation facilities and/or laboratory?

Yes


No

All other activities not prescreened in Section 5.

Yes

Use Screening Form for Potential Env & Social Issues (Annex VI). Check Ineligible Activity List (Ch 6, Table 7 in ESMF).
Table 7 - Ineligible Activity List

The following type of activities shall not be eligible for financing under the Project:
- Activities of any type classifiable as “High” risk pursuant to the World Bank’s Environment and Social Standard 1 (ESS1) of the Environment and Social Framework (ESF). The following activities are illustrative examples of “High” risk activities:
  - Activities that may cause long term, permanent and/or irreversible (e.g. loss of major natural habitat) adverse impacts;
  - Activities that have high probability of causing serious adverse effects to human health and/or the environment not related to treatment of COVID-19 cases;
  - Activities that may have significant adverse social impacts and may give rise to significant social conflict;
  - Activities that may affect lands or rights of indigenous people or other vulnerable minorities;
  - Activities that may involve permanent resettlement or land acquisition or adverse impacts on cultural heritage;
  - Activities that are considered by the World Bank (a) to have potential to cause significant loss or degradation of critical natural habitats whether directly or indirectly or those that could adversely affect forest and forest health; (b) that could affect sites with archaeological, paleontological, historical, religious, or unique natural values; and (c) that will result in adverse impacts on involuntary taking of land, relocation of households, loss of assets or access to assets that leads to loss of income sources or other means of livelihoods, and interference with households’ use of land and livelihoods; and
  - Use of goods and equipment as considered by the World Bank to meet the following conditions: (a) lands abandoned due to social tension/conflict, or the ownership of the land is disputed or cannot be ascertained; (b) to demolish or remove assets, unless the ownership of the assets can be ascertained, and the owners are consulted; (c) involving forced/conscripted labour, child labour (under the age of 18), or other harmful or exploitative forms of labour; (d) activities that would affect indigenous peoples, unless due consultation and broad support has been documented and confirmed prior to the commencement of the activities; and/or (e) other paramilitary purposes.

6.3 CERC
6.3.1 Component 4 Procedures
The Contingency Emergency Response Operation Manual will be developed for the CERC component in the first year of project implementation. A positive and negative list will be developed, and this information will be included in the CERC Operational Manual. An ESMP template has been included in Annex VII and can be used by activities supported under the CERC, if an ESMP is required.

CERC Environmental and Social Risk Management Procedures

Disbursement of emergency financing under the CERC will be contingent upon: a) the recipient establishing a nexus between the disaster event and the need to access funds to support recovery and reconstruction activities (an “eligible event”); and b) submission to and no objection granted by the World Bank of an Action Plan of Activities. The Action Plan of Activities will include a list of activities, procurement methodology and E&S risk management procedures.
Pre-event Procedures

Participating countries seeking to subscribe to the CERC facility will be required to prepare an Action Plan of Activities Framework for World Bank approval prior to the occurrence of an eligible event. While this framework will not contain the specific activities to be financed – as they are demand and event driven – it will identify the requisite coordination and implementation arrangements, including policy and procedural compliance measures. Specific attention should be given to the proposed procurement arrangements and potential environmental and social risk management implications.

By submitting an Action Plan of Activities Framework, the Recipient and the World Bank will be afforded the opportunity to verify that the requisite environmental and social risk management measures are in place to ensure the rapid approval and disbursement of CERC financing upon the occurrence of an eligible event.

Post-event Procedures

The Action Plan of Activities to be prepared following a disaster event will require consideration of environmental and social risk management implications for any proposed emergency supplies procurement or reconstruction activities. The World Bank, through the no objection process, will closely examine the nature of the proposed activities, particularly those involving civil works, to ensure (i) that they are not prohibited under the negative list and (ii) that the recipient is aware of the required environmental and social risk management compliance documentation before initiating the process by which the proposed works will be prepared and implemented.

Preparation of the Action Plan of Activities will have regard to this ESMF and other project E&S risk managements tool(s) and will require World Bank approval prior to commencement of activities. Importantly, the Action Plan of Activities will need to include procedures for:

- Consultation and disclosure;
- Integration of mitigation measures and performance standards into contracts; and
- Supervision/monitoring and reporting measures to ensure compliance.
7 Consultation and Stakeholder Engagement

A stand-alone Stakeholder Engagement Plan (SEP) has been developed to describe the Project’s program for stakeholder engagement, public information disclosure and consultation.

The SEP outlines the ways in which the Project team will communicate with stakeholders and provides a mechanism through which people can raise concerns, provide feedback, or make complaints about the Project or any activities related to the Project. The participation of the local population is essential to ensure collaboration between Project staff and local communities and to minimize and mitigate environmental and social risks related to the proposed Project activities. Broad-ranging, culturally appropriate and adapted awareness raising activities are particularly important to sensitize the communities to the risks related to infectious diseases.

Stakeholder engagement will continue throughout the life of the Project and will include formal scheduled consultations and meetings as well other means of communication. The stakeholder engagement process has two components:

- Early and ongoing engagements with key stakeholders at national, sub national and community to provide information on the Project and obtain feedback on experiences and outcomes of the Project and its activities.
- A Grievances Redress Mechanism to address any public complaints during the implementation of the Project

7.1 Project Stakeholders

To ensure effective and targeted engagement, the Project identifies three core stakeholder categories: affected parties; other interested parties; and vulnerable groups.

7.1.1 Affected Parties

Affected Parties comprise persons, groups and other entities within the Project Area of Influence (PAI) that are directly influenced (actually or potentially) by the Project and/or have been identified as most susceptible to change associated with the Project, and who need to be closely engaged in identifying impacts and their significance, as well as in decision-making on mitigation and management measures.

The following are considered affected parties in the context of this Project:

- COVID19 infected people
- Communities (i.e. religions, race, gender) of COVID19 infected people
- People under COVID19 isolation
- Family members of COVID19 infected people
- Family members of people under COVID19 isolation
- Neighbouring communities to laboratories, health facilities, isolation centres, and screening posts
- Workers at construction sites of laboratories, health facilities, isolation centres and screening posts
- People at COVID19 risks (travellers, inhabitants of areas where cases have been identified, etc.)
7.1.2 Other Interested Parties
Other interested parties include individuals, groups and other entities that may not experience direct impacts from the Project but who consider or perceive their interests as being affected by the Project and/or who could affect the Project and its implementation in some way. Other interested parties may include:

- Traditional media
- Participants of social media
- Politicians
- Other national and international health organizations
- Local and international non-governmental organizations (NGOs)
- Local businesses
- Businesses with international links
- The public at large

7.1.3 Vulnerable Groups
The Project identifies vulnerable groups as any persons or groups who may be disproportionately impacted or further disadvantaged by the Project due to their vulnerable status, and who may require special engagement efforts to ensure their equal representation in Project consultation and decision-making processes. The Project will conduct targeted engagement with vulnerable groups to ensure they are fully informed of the Project and to understand their concerns and needs in accessing information, medical facilities and services and other challenges they face at home, at workplaces and in their communities.

Within the Project, the vulnerable or disadvantaged groups may include and are not limited to the following:

- Elderly
- Illiterate people
- Vulnerable groups working in informal economy
- People with disabilities
- Female-headed households

Vulnerable groups within the communities affected by the Project will be further confirmed and consulted through dedicated means, as appropriate.

7.2 Consultation and Information Disclosure
7.2.1 Stakeholder Engagement during Project Preparation
Given the emergency nature of the Project and the transmission dynamics of COVID-19, consultations during the Project preparation phase and during the development of the ESMF were limited to relevant
government officials, health experts, hospital administrators and others from institutions working in health sector.

A virtual consultation on the ESMF and updated SEP was held on 7th May 2020. This consultation was attended by representatives from the NDOH, PCU, UNICEF, UNOPs, and the World Bank.

The ESMF and first SEP update were disclosed on the 15th May 2020 within 30 days of Project effectiveness.

The ESMF and SEP will be consulted on and disclosed as it is continuously updated throughout the Project implementation period. The next update will be conducted by the incoming NDOH environmental and social specialists before 15th August 2020. This update will include consultations with provincial stakeholders and target IP communities using culturally appropriate communication and dissemination approaches.

7.2.2 Consultation and Disclosure during Project Implementation

Two-way mechanisms for ongoing consultation will operate throughout the life of the Project, to disclose information and seek feedback. Dedicated channels for information dissemination will be established to ensure consistent communication at national, provincial and local levels throughout the Project. Project stakeholder engagement will be carried out on two fronts:

I. Awareness-raising activities to sensitize communities on risks of COVID-19.

II. Consultations with stakeholders throughout the entire Project cycle to inform them of the Project and to solicit their concerns, feedback and complaints about any activities related to the Project and consultations to improve Project design and implementation.

Stakeholders will be kept informed as the Project develops, including reporting on Project environmental and social performance and implementation of the SEP and the grievance mechanism. This will be important for the wider public, but more particularly for suspected and/or identified COVID-19 cases and their families.

The Project consultation and disclosure programme is summarized in Table 8 below.
### Table 8  Project Consultation and Disclosure

<table>
<thead>
<tr>
<th>Project Sub-Component</th>
<th>Methods</th>
<th>Information Disclosed</th>
<th>Target Stakeholders</th>
<th>Responsibilities</th>
</tr>
</thead>
</table>
| 1.1: Risk Communication and Community Engagement | ○ Strengthen social listening and conduct formative research to identify communication needs in affected populations  
○ One-on-one meetings with community leaders and health management  
○ Outreach activities – including community and small group meetings – that are safe and culturally appropriate  
○ Dissemination of IEC materials (posters, leaflets, brochures, video screening, social media content) with approved, tested messages  
○ Information materials for travellers at airports, seaports and border crossing  
○ Infographics on prevention messages for COVID-2019  
○ Fact sheets and Q&As  
○ Press releases (for key events and major announcements)  
○ Public service announcements (for radio and TV)  
○ Newspaper advertisements and insets  
○ Information desks in Provincial government offices and health facilities | ○ Project objectives/implementation  
○ Risk communication to reduce risk of COVID-19 and other infectious diseases  
○ Health awareness: importance of hand hygiene, cough etiquette, physical distancing and staying home if unwell etc.  
○ Project Environment and social risk and impact management/ ESMF  
○ Grievance Redress mechanisms | ○ Infected individuals and their families  
○ Local communities  
○ Vulnerable groups  
○ Local and religious leaders  
○ School and educational institutions  
○ Local businesses  
○ Travelers | ○ UNICEF  
○ NDOH |
<table>
<thead>
<tr>
<th>Project Sub-Component</th>
<th>Methods</th>
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<th>Target Stakeholders</th>
<th>Responsibilities</th>
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<tbody>
<tr>
<td></td>
<td>o Posters and leaflets (e-copy) for sharing in schools and educational institutions o Social media update (prevention messages) o TV and radio shows and guesting (free airtime for public health programs) o Linking with schools for community messaging o Use existing education platforms for messaging on COVID-19 o Linking with church groups for community messaging, both in church gatherings and in online platforms o Using the religious framework for messaging on COVID-19Phone, email, letters</td>
<td>o Improved strategies and operational methods for oversight, coordination, surveillance and data analysis to guide the COVID-19 response o Community engagement and materials for use in community messaging</td>
<td>o Provincial and district Government officials o Provincial Health Authorities o Health institutions management and staff o Isolation and testing facility management and staff o Health workers and experts</td>
<td>o NDOH o PHAs o UNICEF</td>
</tr>
</tbody>
</table>

1.2: Strengthening Response Support at the Provincial Level
### 1.3: Human Resource Development

<table>
<thead>
<tr>
<th>Methods</th>
<th>Information Disclosed</th>
<th>Target Stakeholders</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Carrying out capacity building activities and training</td>
<td>o Health communication</td>
<td>o Provincial and district Government officials</td>
<td>o NDOH</td>
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<tr>
<td>in relation to interpersonal communication by health</td>
<td>o Infection prevention and control</td>
<td>o Provincial Health Authorities</td>
<td>o PHAs</td>
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<td>workers related to COVID-19, infection prevention and</td>
<td>o Covid-19 testing</td>
<td>o Health institutions management and staff</td>
<td>o UNICEF</td>
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<tr>
<td>control, testing, waste management and clinical</td>
<td>o Waste management</td>
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<tr>
<td>management of patients with mild symptoms in primary care</td>
<td>o Clinical management of patients in primary care settings.</td>
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<td>settings.</td>
<td>o Use of PPE and protective measures in health care facilities</td>
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<td>o Information and communication materials developed and</td>
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<td>sent to provinces and health facilities. These materials</td>
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<td>include guidance for preparedness, appropriate use of</td>
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<td>personal protective equipment (PPE) and protective measures</td>
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<td>in health care facilities</td>
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<td>o Using the medical and nursing schools to promote</td>
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<td>health worker contribution to the pandemic</td>
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<tr>
<td>o Provide capacity building support for</td>
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<td>communication (through training, mentoring and remote</td>
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<td>assistance)</td>
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<td>o Training of Trainers will enable communication focal</td>
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<td>points to also train others doing the messaging at the</td>
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<td>community levels</td>
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<tr>
<td>o Prevention materials for isolation officers and</td>
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<tr>
<td>screeners on infection prevention and control</td>
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<tr>
<td>Project Sub-Component</td>
<td>Methods</td>
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</tbody>
</table>
| **2.1: Building Testing Capacity** | • Providing information materials and training in use of PPE; equipment, supplies and consumables for infection prevention, intensive care and waste management. | • Use of PPE, equipment, supplies and consumables for infection prevention, intensive care and waste management. | • Provincial Health Authorities  
• Health institutions management and staff  
• Isolation and testing facility management and staff  
• Health workers | • UNICEF |
| **2.2: Enhancing Containment and Clinical Management Capacity** | • Providing advice and training on use of infection prevention and control materials and equipment to protect frontline health workers including items for PPE, environmental and waste management materials. | • Infection prevention and control methods, materials and equipment | • Health institutions management and staff  
• Isolation and testing facility management and staff  
• Health workers | • UNICEF |
| **3: Managing Implementation and Monitoring & Evaluation** | • Community and small group meetings – where these are safe and culturally appropriate  
• Survey Interviews with direct Project beneficiaries (including infected people and their families) and with public health authorities, management and staff | • Project implementation outcomes – critical evaluation, performance gaps, corrective actions  
• Stakeholder participation and GRM  
• Ongoing Project development | • Infected people and their families  
• Community leaders  
• Provincial/ district government officials  
• Provincial Health Authorities  
• Health institutions management and staff  
• Isolation/ testing facility management and staff  
• Health workers and experts | • UNICEF |
7.3 Grievance Redress Procedures

7.3.1 Grievance Redress Mechanism

The Project Grievance Redress Mechanism (GRM) will seek to resolve complaints and grievances in a timely, effective and efficient manner that satisfies all parties involved. It will provide a transparent and credible process for fair, effective and lasting outcomes. It will also build trust and cooperation as an integral component of broader community consultation that facilitates corrective actions. The GRM will:

- Provide affected people with avenues for making a complaint or resolving any dispute that may arise during the course of the implementation of Projects.
- Ensure that appropriate and mutually acceptable redress actions are identified and implemented to the satisfaction of complainants.
- Avoid the need to resort to judicial proceedings.

7.3.2 World Bank Grievance Redress

Communities and individuals who believe that they are adversely affected by a World Bank-supported Project may submit complaints to existing Project-level GRM or to the World Bank’s Grievance Redress Service (GRS). Once the concerns have been brought directly to the World Bank’s attention, and Bank management has been given an opportunity to respond, complaints may be submitted to the World Bank’s independent Inspection Panel which determines whether harm occurred, or could occur, because of World Bank non-compliance with its policies and procedures. Information on the World Bank’s corporate Grievance Redress Service is provided at: www.worldbank.org/en/Projects-operations/products-and-services/grievance-redress-service. Information on how to submit complaints to the World Bank’s Inspection Panel is provided at: www.inspectionpanel.org.

7.4 Monitoring and Reporting

The SEP will be periodically revised and updated as necessary in the course of Project implementation in order to ensure that the information presented is consistent and reflects the evolving nature of information required at different stages of the Project, and that the identified methods of engagement remain appropriate and effective in relation to the Project context and specific phases of the development. Any major changes to Project related activities or schedule will be reflected in the SEP. Quarterly summaries and internal reports on public grievances, enquiries and related incidents, together with the status of implementation of associated corrective/preventative actions, will be collated by the designated GRM officer, and referred to the Project Director, Coordinator and Project Steering Committee. The quarterly summaries will provide a mechanism for assessing both the number and the nature of complaints and requests for information, along with the Project’s ability to address those in a timely and effective manner.
8 Implementation Arrangements, Responsibilities and Capacity Building

8.1 Implementing Agency

The NDOH is responsible for the implementation of the project, including overall coordination, results monitoring and communicating with the World Bank on the implementation of the project. Although many of the project activities have been outsourced, the NDOH will still have the overall responsibility for ensuring that environmental and social issues are adequately addressed within the project.

A Project Steering Committee will be established to review progress of the Project, ensure coordinated efforts by all stakeholders and to conduct annual reviews of the Project. The Secretary of the NDOH will be the Project Director and provide oversight and support coordination of Project implementation among the relevant divisions and departments of NDOH and Provincial Health Authorities.

A Project Operational Manual (POM) will be developed no later than two months after the effective date of the Financing Agreement (approximately by end of June 2020) to support the PCU to meet its responsibilities for management and implementation of the Project. The POM will describe detailed arrangements and procedures for the implementation of the Project, such as responsibilities of the PCU, operational systems and procedures, Project organizational structure, office operations and procedures, finance and accounting procedures (including funds flow and disbursement arrangements), procurement procedures, personal data collection and processing, and implementation arrangements for the Environmental and Social Commitment Plan (ESCP) as well as the preparation and/or implementation of instruments referred to in the ESCP such as the Environmental and Social Management Plan (ESMP) per World Bank ESF guidance.

The ESMF and associated documents will be reviewed and updated by the incoming NDOH environmental and social specialists before 15th August 2020. Updated documents will be re-disclosed.

The NDOH will prepare and submit regular (six-monthly) monitoring reports on the environmental, social, health and safety (ESHS) performance of the Project, including but not limited to, the implementation of the ESCP, status of preparation and implementation of the Project’s environmental and social documents, stakeholder engagement activities and grievances log, Labour Management Procedures, contractor’s ESHS implementation (when required for the improvement of physical facilities/equipping the existing facilities), ESHS incidents, and the functioning of the grievance mechanism.

Project Coordination Unit (PCU)

The PCU for the Emergency Tuberculosis Project (ETP, P160947) is embedded in the NDOH and will support the NDOH with managing implementation of the Project. The PCU will manage day-to-day implementation of the Project, under NDOH supervision and reporting to responsible staff within NDOH appointed by the minister. As the risk profile of this project is very different from the Emergency TB project (which was classified as low impact Category C under the World Bank Operational Policy 4.01), no environmental and social risk management resources are in place within the PCU team, which currently consists of a Project Coordinator and Procurement Specialist, and there is little experience with the Bank’s environmental and social environmental and social risk management requirements. To address this, the PCU is recruiting a full-time, local Environmental, Social and Health and Safety and
Community Engagement (ESH&S&E) Specialist and a part-time, international Environment, Social and
Health and Safety (ESH) expert(s). The ESH&S&E Specialist will be recruited/appointed within 1 month
after the effective date of the Financing Agreement for the Project (Effective Date) and maintained
throughout Project implementation. The international ESHS shall be recruited/appointed and retained
on an as-required basis.

**ESH&S&E Specialist**

The ESH&S&E Specialist, reporting to the Project Director, will function as a core member of the PCU
under NDOH and will ensure that environmental, social, and health and safety risks are managed in
accordance with the requirements of the World Bank’s ESF, WHO Guidance on COVID-19, and GoPNG
Law.

Specifically, the ESH&S&E Specialist will:

- Lead the implementation of the project’s ESMF and associated instruments in accordance with
  the World Bank ESF, project ESCP and GoPNG legal requirements including:
  - Develop and deliver ESHS training for the PCU and other relevant stakeholders;
  - Managing the oversight of project contractors including UNOPS and UNICEF, and Civil Works
    Contractors;
  - Environmental and social screening (outlined in section 6), preparation and disclosure of
    site-specific instruments and CEPA permit applications, consultation and information
    dissemination activities with relevant stakeholders;
  - Managing environmental and social risks in procurement;
  - Site-based environmental, safety and social monitoring. Address non-compliances and
    develop and confirm the implementation of corrective actions. Assist with the
    implementation of project investment opportunities that would improve performance;
  - Preparation of the monthly and six-monthly monitoring reports on the environmental,
    social, health and safety (ESH&S) performance of the Project; and
  - Notification, reporting and management of incidents or accidents related to the Project
    which have, or are likely to have, a significant adverse effect on the environment, the
    affected communities, the public or workers.
- Oversee the implementation of the project’s SEP Plan in close collaboration with the Project
  Director and the UNICEF Risk Communication and Community Engagement (RCCE) team.
- Coordinate the implementation of the project’s GM ensuring timely resolution of project related
  grievances.
- Participate in semi-annual Project Supervision missions, representing NDOH on environmental,
  safety and social aspects.
- Conduct other ESHS and CE related activities as required by the Project Director, PCU.

**International ESHS Specialist**

The ESH&S&E Specialist will be supported by part-time, international Environment, Social and Health and
Safety (ESH) expert(s), who shall be recruited/appointed and retained on an as-required basis and
report to the Project Director

Specially the International ESHS Specialist will:
• Provide technical support to the ESHS&CE Specialist to implement the project's ESMF and associated instruments in accordance with the World Bank ESF, ESCP and GoPNG legal requirements including:
  o Support the ESHS&CE to develop and deliver ESHS training for the PCU and other relevant stakeholders.
  o Support environmental screening, preparation and disclosure of site-specific instruments, and consultation and information dissemination activities with relevant stakeholders.
  o Support/Review monthly and six-monthly monitoring reports on the environmental, social, health and safety (ESHS) performance of the Project.
  o Support notification, reporting and management of incidents or accidents related to the Project which have, or are likely to have, a significant adverse effect on the environment, the affected communities, the public or workers.
  o Participate (remotely) in semi-annual Project Supervision missions, representing NDOH on environmental, safety and social aspects.

Health Facilities Branch

The NDOH Health Facilities Branch will assist UNICEF and UNOPS with procurement of medical equipment. They will also assist with the installation, maintenance and repair of the incinerators and the refurbishment of the health-care facilities for the isolation centres.

8.2 Activity Level Environmental and Social Risk Management Responsibilities

UNOPS

The PCU will contract United Nations Operation for Project Services (UNOPS) to support project activities, in particular sub-component 2.1 on Building Testing Capacity. UNOPS will be engaged to procure and provide medical equipment, consumables and other laboratory and medical supplies. All UNOPS activities are expected to comply with the Project’s environmental and social E&S risk management documents as specified in the contractor’s agreement.

UNOPS will provide interim reports within two months of project inception with information relating to the environmental, social, health and safety risks associated with supply and transportation of goods; and the transportation and installation, of equipment including mitigation measures that UNOPS will adopt. Thereafter, regular progress reports (submitted on a quarterly basis) will include information on incidents and/or grievances (if any) related to the transportation and installation of goods or equipment.

UNICEF

The PCU will contract UNICEF to support project activities. Specifically, UNICEF will be engaged to assist with risk communication and community engagement (RCCE), provide support with COVID-19 rapid response and surveillance activities at the provincial level, and provide logistics support for human resources development. UNICEF will also procure materials and equipment for infection prevention, intensive care, and waste management. This includes PPE, environmental hygiene and waste

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10 ESMF, CoESP, LMP, SEP, IP&WMP
management materials including the incinerators. The list of equipment and supplies to be procured shall be approved by NDOH in accordance with the Project’s environmental and social requirements. Due diligence for the purchase of the incinerators will be undertaken by UNICEF, taking into consideration CEPA requirements e.g. installing scrubbers on the stacks to mitigate air emissions. All UNICEF activities are expected to comply with all of the Project’s environmental and social E&S risk management documents\(^\text{11}\) as specified in the contractor’s agreement. Specifically, communication and community engagement activities must align with principles and approaches outlined in the project’s SEP\(^\text{12}\).

UNICEF will provide interim reports within two months of project inception which will include an assessment of environmental and social risks associated with the activities, including mitigation measures UNICEF will adopt in accordance with the UN policies and procedures and the Project’s environmental and social requirements. Thereafter, regular progress reports (submitted on a quarterly basis) will report on environmental and social performance during the reporting period including the implementation of mitigation measures and a record of key issues, incidents and/or grievances.

**Construction Contractors**

Construction contractor’s may be used for installation and refurbishment activities such as the installation of the incinerators, installation of the laboratory and refurbishment of health care facilities for isolation centres. Contractor(s) are expected to comply with the projects E&S risk management documents, including the CoESP and LMP and this will be specified in the contractor’s agreements. Contractor(s) will be expected to disseminate and create awareness within their workforce of environmental and social E&S risk management compliance, and undertake any staff training necessary for their effective implementation. Where contractors do not have existing environmental staff, the E&S Specialist/s within the PCU, supported by the World Bank Environmental and Social team, will make arrangements for adequate capacity building within the contractor’s workforce.

Contractor(s) will also be required to prepare and comply with waste management plans and construction health and safety plans and to take all necessary precautions to maintain the health and safety of their personnel. The contractor(s) will appoint a health and safety officer at site, who will have the authority to issue directives for the purpose of maintaining the health and safety of all personnel authorized to enter and or work on the site, to take protective measures to prevent accidents, to ensure suitable arrangements are made for all necessary welfare and hygiene requirements, to undertake worker training, and be a focal point to deal with COVID-19 issues.

**Health-care Facilities**

At the health-care facility level, the head of the health-care facility will have overall responsibility for infection prevention control (IPC) and waste management. During project implementation, the head of the health-care facility should assess the following:

- whether adequate and qualified staff are in place, including those in charge of infection control and waste management;

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\(^{11}\) ESMF, CoESP, LMP, SEP, IP&WMP  
\(^{12}\) ESMF, CoESP, LMP, SEP, IP&WMP
• whether additional staff are required: if so, how many, and with what qualifications and training;
• how relevant departments in the healthcare facility will work together to create an intra-departmental team to manage, coordinate and regularly review the issues and performance of the facility.

The head of a health-care facility should formally appoint a person or team to be responsible for implementing the procedures and mitigation measures that have been adopted to avoid or minimize the spread of COVID-19. This would be the person/team with overall responsibility for infection prevention control and waste management and would ensure that IPC and health care waste management activities are carried out in accordance with the IPC&WMP. This person/team would also manage, coordinate and regularly review the performance of the facility in terms of how the waste streams in the health-care facilities are separated, tracked and recorded, and oversee the procedures for the safe transportation of potentially infected samples to testing facilities. Currently, some health care facilities have a dedicated person who champions IPC for the TB units who could also be identified for IPC oversight for this Project. This will be decided during project implementation.

Under the TB Project, all participating health care facilities’ in-charge were trained in IPC procedures. This training was delivered by WHO. MSF has provided COVID IPC Train-the-Trainer training in NCD and Gulf Province. NDOH is considering retaining WHO (through UNICEF) to deliver further IPC training to new health care facilities participating in the COVID response project.

8.3 World Bank Environmental and Social Team
The Bank’s Environmental and Social team will provide regular E&S risk management compliance support, remote and during missions, and to build capacity for ESMF implementation and stakeholder engagement. As international travel may be slow to resume, supervision and missions may continue to be conducted remotely for some time.

8.4 Capacity Building
The E&S Specialist/s in the PCU may have differing level of familiarity with the WB Environmental and Social Standards and Procedures and may need ongoing support, training, and technical assistance to implement the Project E&S documents and prepare project activity instruments during project implementation. It is expected that enhanced oversight from the World Bank Environmental and Social team will be required. Specifically, within 2-months of the Effective Date of the Project, the Project team members will receive training on the Project’s E&S instruments, and the roles and responsibilities of different key agencies in the ESMF implementation. The WB will also maintain a close dialogue with the PCU ESHS&CE Specialist/s and ensure implementation support for environmental and social risk management and stakeholder engagement when needed. Further capacity assessments during project implementation will identify where training and further capacity building will be needed.

The PNG health sector has some experience in IPC, health-care waste management, and communication and public awareness for emergency situations through other national and World Bank funded health projects. Effective implementation of the environmental and social risk management will require capacity development for those responsible for implementing project activities at grass-root levels.
Training and capacity support of hospital medical, laboratory and waste management personnel, community outreach officers are built into the project design and will be primarily delivered by WHO (contracted by UNICEF). E&S related training topics/themes will include:

- Interpersonal communication by health workers related to COVID-19,
- Infection prevention and control, testing,
- Waste management and
- Clinical management of patients with mild symptoms in primary care settings

Training topics/themes delivered by the PCU E&S Specialists will likely cover the following topics:

- The relevant requirements of the ESMF, LMP, SEP, IPC&WMP, provisions to prevent SEA/SH, and WHO guidelines on COVID-19.
- The roles and responsibilities of different key agencies in the E&S risk management implementation.
- Managing COVID related waste, and general medical health care waste.
- Labour management procedures.
- Grievance mechanisms.
- Consultations, communications and feedback.
- Ensuring all peoples are given equal access and rights (vulnerable groups, ethnic groups).
- Understanding concerns with gender-based violence, violence against children, social stigma with COVID 19.
- Monitoring and reporting at all levels.

8.5 E&S Risk Management Budget

ESMF implementation costs are allocated according to the budget line items in Table 9. Such costs include the E&S Specialists, training, and other costs to be determined during project implementation. Costs for undertaking travel to conduct monitoring and trainings as well as participation with World Bank supervision missions are also identified. The anticipated cost for all these initiatives is estimated at $350,000 USD.

The national ESHS&CE Specialist will be maintained throughout project implementation. The international ESHS Specialist will be retained on an as-required basis. The main activities are likely to be completed within 2 years of project effectiveness. Therefore, the international ESHS specialist’s inputs will likely be front ended. The E&S Specialists in the PCU will not have a stand alone, earmarked budget to complete E&S risk management activities such as the preparation of activity level E&S risk management instruments. Instead the cost is included in the E&S Specialist/s budgets.

The national ESHS&CE Specialist will also support other World Bank public health Projects (ETB and Impact Health (IH) projects). Operating costs from the ETB and IH projects will also be mobilized for E&S risk management activities and the Projects field activities in the 10 provinces will need to be coordinated with these projects wherever possible.

It is worth noting that there is a significant overlap in project activities to achieve its objectives, and the risk management measures prescribed by the ESMF (e.g. RCCE). A good part of the Project budget will be used for activities outlined in the ESMF e.g. for health-care worker training and information
dissemination. Furthermore, UNICEF and UNOPs as the main contractors also have E&S aspects embedded in their activities and budgets. Therefore, significantly more money will be spent on E&S risk management, than is reflected in Table 9.

Table 9 - ESMF implementation costs.

<table>
<thead>
<tr>
<th>E&amp;S risk management resource</th>
<th>USD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ESHS&amp;CE Specialist (PMU)</strong></td>
<td>$180,000</td>
</tr>
<tr>
<td>• Screening of activities.</td>
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<tr>
<td>• Preparation and disclosure of activity level instruments.</td>
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<tr>
<td>• Supervision, monitoring, and reporting.</td>
<td></td>
</tr>
<tr>
<td>• Information and communication</td>
<td></td>
</tr>
<tr>
<td>• Monitoring including preparation of six-monthly monitoring reports on the environmental, social, health and safety (ESHS) performance of the Project.</td>
<td></td>
</tr>
<tr>
<td>• Training and workshops</td>
<td></td>
</tr>
<tr>
<td>• Coordinate the Project’s GM</td>
<td></td>
</tr>
<tr>
<td><strong>International ESHS Specialist (PMU)</strong></td>
<td>$120,000</td>
</tr>
<tr>
<td>• Support screening of activities.</td>
<td></td>
</tr>
<tr>
<td>• Support preparation and disclosure of activity level instruments.</td>
<td></td>
</tr>
<tr>
<td>• Support supervision, monitoring, and reporting.</td>
<td></td>
</tr>
<tr>
<td>• Support monitoring including preparation of six-monthly monitoring reports on the environmental, social, health and safety (ESHS) performance of the Project.</td>
<td></td>
</tr>
<tr>
<td>• Support notification, reporting and management of incidents or accidents.</td>
<td></td>
</tr>
<tr>
<td>• Training and Workshops</td>
<td></td>
</tr>
<tr>
<td>• Capacity Building.</td>
<td></td>
</tr>
<tr>
<td>• Support the coordination of the Project’s GM.</td>
<td></td>
</tr>
<tr>
<td><strong>Training and Communications</strong></td>
<td>$25,000</td>
</tr>
<tr>
<td>• PMU E&amp;S specialist/s to travel to provide ESHS training at national and provincial level (10 provinces).</td>
<td></td>
</tr>
<tr>
<td>• Consultation activities in accordance with the SEP.</td>
<td></td>
</tr>
<tr>
<td><strong>Supervision, monitoring, and reporting</strong></td>
<td>$25,000</td>
</tr>
<tr>
<td>• PMU E&amp;S specialist/s to travel to provinces semi-annually for training and conducting project supervision, monitoring and reporting.</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$350,000</td>
</tr>
</tbody>
</table>
9 Annexes
Annex I. Abbreviations and Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSL</td>
<td>Biosafety Level</td>
</tr>
<tr>
<td>CDC</td>
<td>Centre for Disease Control and Prevention</td>
</tr>
<tr>
<td>CEPA</td>
<td>Conservation &amp; Environment Protection Authority</td>
</tr>
<tr>
<td>CERC</td>
<td>Contingent Emergency Response</td>
</tr>
<tr>
<td>CoESPT</td>
<td>Code of Environmental and Social Practice</td>
</tr>
<tr>
<td>COVID-19</td>
<td>Coronavirus Disease 2019</td>
</tr>
<tr>
<td>EHS</td>
<td>Environmental, Health and Safety</td>
</tr>
<tr>
<td>EOC</td>
<td>Emergency Operating Centre</td>
</tr>
<tr>
<td>ESF</td>
<td>Environmental and Social Framework</td>
</tr>
<tr>
<td>ESIA</td>
<td>Environmental and Social Impact Assessment</td>
</tr>
<tr>
<td>ESHS</td>
<td>Environmental, Social, Health and Safety</td>
</tr>
<tr>
<td>ERP</td>
<td>Emergency Response Plan</td>
</tr>
<tr>
<td>ESMF</td>
<td>Environmental and Social Management Framework</td>
</tr>
<tr>
<td>ESMP</td>
<td>Environmental and Social Management Plan</td>
</tr>
<tr>
<td>ETP</td>
<td>Emergency Tuberculosis Project</td>
</tr>
<tr>
<td>GBV</td>
<td>Gender Based Violence</td>
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<tr>
<td>GM</td>
<td>Grievance Mechanism</td>
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<tr>
<td>GoPNG</td>
<td>Government of Papua New Guinea</td>
</tr>
<tr>
<td>HCF</td>
<td>Health-care Facility</td>
</tr>
<tr>
<td>HCW</td>
<td>Health-care Worker</td>
</tr>
<tr>
<td>HEPA</td>
<td>High Efficiency Particulate Air filter</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>IH</td>
<td>Impact Health Project</td>
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<tr>
<td>IPC&amp;WMP</td>
<td>Infection Prevention Control and Waste Management Plan</td>
</tr>
<tr>
<td>IPC</td>
<td>Infection and Prevention Control</td>
</tr>
<tr>
<td>MSF</td>
<td>Medecins sans Frontieres</td>
</tr>
<tr>
<td>NCD</td>
<td>National Capital District</td>
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<tr>
<td>NDOH</td>
<td>National Department of Health</td>
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<tr>
<td>NEOC</td>
<td>National Emergency Response Operation Committee</td>
</tr>
<tr>
<td>OHS</td>
<td>Occupational Health and Safety</td>
</tr>
<tr>
<td>PCU</td>
<td>Project Coordination Unit</td>
</tr>
<tr>
<td>PNG</td>
<td>Papua New Guinea</td>
</tr>
<tr>
<td>PPE</td>
<td>Personal Protective Equipment</td>
</tr>
<tr>
<td>SEA</td>
<td>Sexual Exploitation and Abuse</td>
</tr>
<tr>
<td>SEP</td>
<td>Stakeholder Engagement Plan</td>
</tr>
<tr>
<td>SOP</td>
<td>Standard Operating Procedures</td>
</tr>
<tr>
<td>TA</td>
<td>Technical Assistance</td>
</tr>
<tr>
<td>TB</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>WB</td>
<td>World Bank</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>WMP</td>
<td>Waste Management Plan</td>
</tr>
<tr>
<td>WWTP</td>
<td>Wastewater Treatment Plant</td>
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</tbody>
</table>
Annex II. Code of Environmental and Social Practice (CoESP) for Minor Construction Works

This Code of Environmental Practice (CoESP) for the minor works has been developed to manage the risks associated with the installation of the modular laboratory, the incinerators and refurbishment of health-care facilities for isolation centres and as part of the PNG COVID-19 Response Project (the Project). All sites supported under the Project are required to comply with this CoESP and this will be specified in the contractor’s agreements.

The CoESP describes the potential environmental and social impacts, mitigation measures, and responsibilities during the design and planning, refurbishment/construction, and decommissioning stages.

This CoESP should be read in conjunction with the following project documents:

- Environmental and Social Management Framework (ESMF)
- Infection Prevention Control and Waste Management Plan (IPC&WMP)
- Labour Management Procedure (LMP)
- Stakeholder Engagement Plan (SEP)
- Project Operational Manual (POM)

Monitoring and Compliance

The planning and design stages of the CoESP should be followed by PCU and compliance monitored by the World Bank E&S Risk Management Team.

The construction and decommissioning stages of the CoESP should be followed by the contractor(s) and compliance monitored by the PCU.

Reporting

Six-monthly reports will need to be prepared by the PCU and provided to the World Bank. The semi-annual environmental and social monitoring reports to the World Bank will include: (i) the status of the implementation of mitigation measures; and (ii) the findings of monitoring programs (iii) stakeholder engagement activities (iv) grievances log (v) any incidents/accidents with adverse impacts and the actions taken to address it and prevent reoccurrence.

Monthly reports shall be prepared by the contractor(s) and submitted to the PCU for review. The reports shall include information on (i) the implementation of Construction Health and Safety and Waste Management plans (ii) any health and safety or environmental incidences (iii) information on any grievances received and how they were resolved.
### Design Stage

<table>
<thead>
<tr>
<th>Risks and Impacts</th>
<th>Mitigation Measures</th>
<th>Responsibilities</th>
</tr>
</thead>
</table>
| Failures in procurement process e.g. equipment that is inappropriate and could lead to spread of infection to healthcare workers and/or cleaners, causes health & safety risks to workers, and/or causes adverse environmental harm. | • Due diligence and assessments will be undertaken by UNICEF and UNOPS, overseen by NDOH, regarding purchase of goods to ensure correct fit for purpose equipment is procured and to PNG standards.  
• World Bank and CEPA to review and have input on incinerator specifications. | UNICEF/UNOPS/NDOH |
| The design of laboratory and medical isolation centres do not meet technical requirements, increasing risk of spreading COVID-19 in health facilities. | • The design set up and management of the facilities will take into account the advice provided by WHO and/or CDC on COVID-19 management and infection control:  
  o WHO guidance for [Severe Acute Respiratory Infections Treatment Centre](https://www.who.int).  
  o WHO interim guidance on [Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected](https://www.who.int);  
  o WHO technical brief [water, sanitation, hygiene and waste management for COVID-19](https://www.who.int);  
  o WHO guidance on [infection prevention and control at health care facilities (with a focus on settings with limited resources)](https://www.who.int);  
  o CDC Guidelines for [isolation precautions: preventing transmissions of infectious agents in healthcare settings](https://www.cdc.gov); and  
  o CDC guidelines for environmental infection control in healthcare facilities.  
• Hand washing facilities should be provided at the entrances to health care facilities in line with [Recommendations to Member States to Improve Hygiene Practices](https://www.who.int).  
• Isolation rooms should be provided and used at medical facilities for patients with possible or confirmed COVID-19. Refer to the IPC&WMP for more detail on isolation room requirements. | NDOH and related department at national and provincial levels including hospitals |
| The design of laboratory and isolation centres are not covered by adequate life and | • L&FS master planning should be included in the design of the new facilities in line with GIIP and national legal requirements. NDOH should ensure that all national legal L&FS requirements are met, upon completion of the construction. The isolation | NDOH and related department at national and |

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<tr>
<th>Risks and Impacts</th>
<th>Mitigation Measures</th>
<th>Responsibilities</th>
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<tbody>
<tr>
<td>fire safety (L&amp;FS) risk assessment and mitigation measures.</td>
<td>Centres should be provided with Fire Detection and Alarm; Means of Egress; Fire Control and Suppression; Smoke Control. IFC’s Good Practice Note on Life and Fire Safety: hospital shall be considered.</td>
<td>Provincial levels including hospitals</td>
</tr>
</tbody>
</table>
| Inadequate facilities and processes for the treatment of health-care waste and does not allow for the separation of infectious and non-infectious waste increasing the risk of spreading COVID-19. | The following mitigation measures must be undertaken prior to works beginning:  
- Estimate the potential health-care waste streams;  
- Consider the capacity of existing facilities, and plan to increase capacity, if necessary, through construction, expansion etc.;  
- Specify that the design of the facility considers the collection, segregation, transport and treatment of the anticipated volumes and types of health-care wastes;  
- Require that receptacles for waste should be sized appropriately for the waste volumes generated, and colour coded and labelled according to the types of waste to be deposited;  
- Develop appropriate protocols for the collection of waste and transportation to storage/disposal areas in accordance with WHO guidance;  
- Design training for staff in the segregation of wastes at the time of use; and  
- Design of facility will follow guidance from WHO and/or CDC on health-care waste management and infection prevention control as detailed in the IPC&WMP (Annex IV). | NDOH and related department at national and provincial levels |
| The design does not consider mortuary arrangements. |  
- Include adequate mortuary arrangements in the design.  
- See WHO Infection Prevention and Control for the safe management of a dead body in the context of COVID-19. | NDOH and related department at national and provincial levels |
| The location and scale of the units are not appropriate. | Screen the site for existing activities, including the location of existing utilities. At a minimum, the following requirements apply in the installation of the modular facilities:  
- The facility must be installed on a cleared and levelled site;  
- The facility must sit on a solid base or footing to minimize the risk of movement;  
- Footings must be hand dug to minimize the risk of impacting underground utilities; and | NDOH and related department at national and provincial levels |
### Design Stage

<table>
<thead>
<tr>
<th>Risks and Impacts</th>
<th>Mitigation Measures</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilities and/or ancillary activities are not present and/or are inadequate.</td>
<td>• Identify the facilities needs for utility services such as water (quality and quantity) and power, sewage system, access roads etc.</td>
<td>NDOH and related department at national and provincial levels.</td>
</tr>
<tr>
<td></td>
<td>• Ensure that adequate facilities are in place at the selected location.</td>
<td></td>
</tr>
<tr>
<td>Inadequate construction workforce size and/or insufficient accommodations.</td>
<td>The following mitigation measures must be undertaken prior to works beginning:</td>
<td>NDOH and related department at national and provincial levels</td>
</tr>
<tr>
<td></td>
<td>• Identify numbers and types of workers;</td>
<td></td>
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<tr>
<td></td>
<td>• Identify how long workers will be needed for;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Consider accommodation and measures to minimize cross infection; and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Use the Project LMP to screen risks and identify further mitigation measures.</td>
<td></td>
</tr>
<tr>
<td>Site selection, layout and design of facilities does not consider universal access e.g. women, children, elderly and users with disabilities.</td>
<td>• Consider the need for differentiated access for different users of the facilities in the design.</td>
<td>NDOH and related department at national and provincial levels</td>
</tr>
<tr>
<td></td>
<td>• Undertake consultation meetings in accordance with the Project SEP.</td>
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## Construction Stage

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<tr>
<th>Risks and Impacts</th>
<th>Mitigation Measures</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air quality, noise, and vibration generated from minor civil works</td>
<td>The contractor(s) is responsible for compliance with relevant national legislation with respect to ambient air quality, noise and vibration.</td>
<td>Contractor(s)</td>
</tr>
</tbody>
</table>

### Air Quality:

The contractor(s) undertaking works shall implement dust suppression measures (e.g. covering of material stockpiles, etc.) as required. At a minimum the following is required:
- Materials used shall be covered and secured properly during transportation to prevent scattering of soil, sand, materials, or generating dust;
- Keep stockpile of aggregate materials covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals;
- Minimize dust from exposed work sites by applying water on the ground regularly;
- No burning of site clearance debris (trees, undergrowth) or construction waste materials;
- Hydrocarbons shall not be used as a method of dust control; and
- Immediately re-vegetate and/or stabilize exposed areas.

### Noise and Vibration:

The contractor(s) undertaking works shall implement the following at a minimum:
- Plan activities in consultation with communities so that noisiest activities are undertaken during periods that will result in least disturbance;
- Noise levels should be maintained within the national permissible limits/standards;
- If necessary, use temporary noise-control methods such as fences, barriers or deflectors (such as muffling devices for combustion engines) and select equipment with lower sound power levels where possible;
- Minimize transportation of construction materials through community areas during regular working time; and
### Construction Stage

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<tr>
<th>Risks and Impacts</th>
<th>Mitigation Measures</th>
<th>Responsibilities</th>
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</table>
| Soil erosion causing impacts to surface or groundwater.                          | The contractor(s) undertaking works shall implement the following at a minimum:  
  - Implement suitable project design (e.g., establish appropriate erosion and sediment control measures) to minimize soil erosion;  
  - Scheduling to avoid heavy rainfall periods; and  
  - Use mulch, grasses or compacted soil to stabilize exposed areas promptly.                                                                                                                                       | Contractor(s)     |
| Resource efficiency issues, including materials supply.                          | The contractor(s) undertaking works shall at a minimum:  
  - Source raw materials locally from licensed/permitted facilities only; and  
  - Use recycled or renewable building materials (e.g. timber) where possible.                                                                                                                                     | Contractor(s)     |
| Impacts on local communities from traffic obstruction, congestion, and traffic and road safety. | The contractor(s) undertaking works shall implement the following at a minimum:  
  - Construction and establishment of haul roads shall be kept to a minimum;  
  - Minimise the extent of traffic and construction impacts on adjacent villages and other residential areas where possible; and  
  - All traffic signs used for the warning or direction of traffic at road works sites shall comply with appropriate traffic regulations. Homemade signs shall not be used. | Contractor(s)     |
| Damage to cultural heritage.                                                     | The contractor(s) shall have a Chance-Finds Procedure in place prior to works beginning.                                                                                                                                | Contractor(s) Site Engineer |
| Land and/or water pollution from waste generated (solid, hazardous, and wastewater) | The contractor(s) undertaking works shall implement the following at a minimum:  
  - Develop and follow a brief site-specific Waste Management Plan (separation of waste streams, storage, provision of bins, site clean-up, bin clean-out schedule, etc.) before commencement of any financed works; | Contractor(s)     |
## Construction Stage

<table>
<thead>
<tr>
<th>Risks and Impacts</th>
<th>Mitigation Measures</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Use litter bins, containers and waste collection facilities at all places during works;</td>
<td>• Store solid waste temporarily on site in a designated place prior to off-site transportation and disposal through a licensed waste collector;</td>
<td></td>
</tr>
<tr>
<td>• Store solid waste temporarily on site in a designated place prior to off-site transportation and disposal through a licensed waste collector;</td>
<td>• On-site and off-site transportation of waste should be conducted to prevent or minimize spills, releases, and exposures to employees and the public;</td>
<td></td>
</tr>
<tr>
<td>• On-site and off-site transportation of waste should be conducted to prevent or minimize spills, releases, and exposures to employees and the public;</td>
<td>• Dispose of waste only at designated place identified and approved by local authority. Open burning or burial of solid waste at the hospital premises shall not be allowed. It is prohibited for the contractor(s) to dispose of any debris or construction material/paint in environmentally sensitive areas (including watercourses);</td>
<td></td>
</tr>
<tr>
<td>• Dispose of waste only at designated place identified and approved by local authority. Open burning or burial of solid waste at the hospital premises shall not be allowed. It is prohibited for the contractor(s) to dispose of any debris or construction material/paint in environmentally sensitive areas (including watercourses);</td>
<td>• Recyclable materials such as packaging material etc., shall be segregated and collected on-site from other waste sources for reuse or recycle (sale);</td>
<td></td>
</tr>
<tr>
<td>• Recyclable materials such as packaging material etc., shall be segregated and collected on-site from other waste sources for reuse or recycle (sale);</td>
<td>• Ensure onsite worker latrine/s be properly operated and maintained to collect and dispose of wastewater;</td>
<td></td>
</tr>
<tr>
<td>• Ensure onsite worker latrine/s be properly operated and maintained to collect and dispose of wastewater;</td>
<td>• Minimize hazardous waste generation by ensuring hazardous waste is not co-mingled with non-hazardous waste. Collect, transport and disposal of hazardous waste to licensed/permitted hazardous waste sites only following good international industry practice for the waste being handled; and</td>
<td></td>
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<tr>
<td>• Minimize hazardous waste generation by ensuring hazardous waste is not co-mingled with non-hazardous waste. Collect, transport and disposal of hazardous waste to licensed/permitted hazardous waste sites only following good international industry practice for the waste being handled; and</td>
<td>• Design training for staff in the segregation of wastes.</td>
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### Land and/or water pollution from use and storage of hazardous substances e.g. fuel, oils, lubricants.

- The contractor(s) undertaking works shall implement the following at a minimum:
  - Using impervious surfaces for refuelling areas and other fluid transfer areas;
  - Ensure that refuelling and maintenance facilities are not located, or that activities do not take place, within 30 m of a watercourse, or in ecologically sensitive areas. If a 30 m limit is impracticable then a lesser limit may be adopted provided approval is obtained. On no account shall the limit be less than 10 m;
  - Ensure that vehicles and plant are not stored within 30 m of a watercourse, or in ecologically sensitive areas, overnight or when not in use;

- Contractor(s)
### Construction Stage

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| Construction Stage Risks and Impacts                                             | • Regular checks for leaking oil or fuel from machinery undertaken. Any leaks are promptly repaired and/or parts replaced within two days as part of maintenance of vehicles and equipment;  
  • Training workers on the correct transfer and handling of fuels and chemicals and the response to spills; and  
  • Spill kit, appropriate to the hazardous materials being used, to be kept on-site and workers to be trained in its deployment. | Contractor(s)     |
| Land and/or water pollution from hazardous wastes such as asbestos, lead paints, SMF, ozone depleting substances (from old air conditioning units) and PCBs that may be present in old health-care facilities or construction debris. | The contractor(s) undertaking works shall be required to do the following at a minimum:  
  • Hazardous material assessment & management procedure detailed in Construction/Renovation Waste Management Plan(s) to be developed during project by the contractor in accordance with good international industry practice (GIIP).  
  • Building inspection that identifies whether asbestos or other hazardous materials are present prior to demolition.  
  • Asbestos containing materials managed in accordance with GIIP such as WBG guidelines on asbestos management.  
  • Safe removal of any asbestos-containing materials or other toxic substances shall be performed and disposed of by specially trained workers in line with the WBG guidelines on asbestos management.  
  • Removal personnel will have proper training prior to removal or repair of asbestos containing materials.  
  • All asbestos waste and products containing asbestos is to be buried at an appropriate landfill and not to be tampered or broken down to ensure no fibres are airborne. Disposal of waste containing asbestos should be agreed with NDOH.  
  • No asbestos containing materials used for construction or renovation works. | Contractor(s)     |
<p>| Health and Safety risks for community, health staff,                             | The contractor(s) undertaking works shall implement the following at a minimum:                                                                                                                                       | Contractor(s)     |</p>
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| patients and their relatives from construction activities. | - Develop and follow a brief site-specific construction/renovation health and safety (H&S) management plan which includes health and safety measures for community, health staff, patients and their relatives.  
- Comply with all national and good practice regulations regarding health workers’ safety and the Project’s LMP;  
- Take protective measures to prevent accidents such as:  
  - Implementing good house-keeping practices, such as the sorting and placing loose construction materials or demolition debris in established areas away from foot paths.  
  - Locating electrical cords and ropes in common areas and marked corridors.  
  - Planning and segregating the location of vehicle traffic, machine operation, and walking areas, and controlling vehicle traffic through the use of one-way traffic routes, establishment of speed limits, and on-site trained flag-people wearing high-visibility vests or outer clothing covering to direct traffic.  
  - Ensuring moving equipment is outfitted with audible back-up alarms.  
- Provide safe access routes and other safety measures as appropriate during works such as first aid kits, restricted access zones, warning signs, covering openings to small confined spaces, overhead protection against falling debris, lighting system to protect community, hospital staff and patients against construction risks; and  
- Grievance mechanism (GM) developed and operational in accordance with the Project SEP. | Contractor(s) |
| **Occupational Health and Safety (OHS) risks for workers from general construction activities.** | The contractor(s) undertaking works shall comply with all national and good practice regulations and GIIP regarding workers’ safety and implement the following at a minimum:  
- Develop and follow a brief site-specific construction/renovation health and safety (H&S) management plan. | Contractor(s) |
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<td>• Prepare and implement a simple action plan to cope with risk and emergency (e.g., fire, earthquake, floods, COVID-19 outbreak)</td>
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<td>• Have or receive minimum required training on occupational safety regulations and use of PPE.</td>
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<td>• Undertake training of staff to meet standards for the proper operation and use of equipment.</td>
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<td>• Training of workers in lifting and materials handling techniques in construction and decommissioning projects, including the placement of weight limits above which mechanical assists or two-person lifts are necessary.</td>
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<td>• Provide PPE and other safety measures as appropriate during works such as safety glasses with side shields, face shields, hard hats, hi-vis vests and safety shoes, first aid kits, restricted access zones, warning signs, overhead protection against falling debris.</td>
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<td>Issues related to inappropriate worker accommodations such as close working and poor living conditions which may create conditions for the easy transmission of COVID-19 and the infection of large numbers of people.</td>
<td>• Provide project workers with accessible means to raise workplace concerns.</td>
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<td>The contractor(s) undertaking works shall comply with all national and good practice regulations regarding workers’ safety and the LMP for the Project and implement the following at a minimum:</td>
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<td>• Wash stations should be provided regularly throughout site, with a supply of clean water, liquid soap and paper towels (for hand drying), with a waste bin (for used paper towels) that is regularly emptied.</td>
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<td>• Wash stations should be provided wherever there is a toilet, canteen/food and drinking water, or sleeping accommodation, at waste stations, at stores and at communal facilities. Where wash stations cannot be provided (for example at remote locations), alcohol-based hand rub should be provided.</td>
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<td>• Enhanced cleaning arrangements should be put in place, to include regular and deep cleaning using disinfectant of catering facilities/canteens/food/drink facilities, latrines/toilets/showers, communal areas, including door handles, floors and all surfaces that are touched regularly (ensure cleaning staff have adequate PPE when cleaning consultation rooms and facilities used to treat infected patients)</td>
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<td>• Worker accommodation that meets or exceeds IFC/EBRD worker accommodation requirements (e.g. in terms of floor type, proximity/no of workers, no ‘hot bedding’, drinking water, washing, bathroom facilities etc.) will be in good state for keeping clean and hygienic, and for cleaning to minimize spread of infection.</td>
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<td>• Other measures (such as working water sprinkling systems at crushers and stockpiles, covered wagons, water suppression or surfacing of haul roads etc.) should be used for dust suppression on site before relying upon the use of dust masks (which could unnecessarily reduce the availability of N95/FFP2 masks for use by medical staff performing some duties).</td>
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<td>Workers do not receive the care needed if infected with COVID-19.</td>
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| Increase in sexual exploitation and abuse/ harassment (SEA/H) related to project workforce | The Contractor(s) should at a minimum:  
  - Comply with all relevant national laws and legislations.  
  - Include SEA/H requirements in the site-specific construction Health and Safety management plan including aspects relating to preventing GBV and SEA/H and zero tolerance for these behaviours.  
  - Ensure that workers are well briefed on the GBV and SEA/H requirements in the Health and Safety Plan.  
  - Provide separate facilities for female and male workers.  
  - Refer to the Project LMP for further mitigation measures.                                                                                                                                           | Contractor(s)    |
| Workers are underaged.                                                           | Child labour or forced labour is absolutely prohibited in the project.                                                                                                                                                  | Contractor(s)    |
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<td>Air quality, noise, and vibration generated from minor civil works</td>
<td>The contractor(s) is responsible for compliance with relevant national legislation with respect to ambient air quality, noise and vibration.</td>
<td>Contractor(s)</td>
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### Air Quality:

The contractor(s) undertaking works shall implement dust suppression measures (e.g. covering of material stockpiles, etc.) as required. At a minimum the following is required:

- Materials used shall be covered and secured properly during transportation to prevent scattering of soil, sand, materials, or generating dust;
- Keep stockpile of aggregate materials covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals;
- Minimize dust from exposed work sites by applying water on the ground regularly;
- No burning of site clearance debris (trees, undergrowth) or construction waste materials;
- Hydrocarbons shall not be used as a method of dust control; and
- Immediately re-vegetate and/or stabilize exposed areas.

### Noise and vibration:

The contractor(s) undertaking works shall implement the following at a minimum:

- Plan activities in consultation with communities so that noisiest activities are undertaken during periods that will result in least disturbance;
- Noise levels should be maintained within the national permissible limits/standards;
- If necessary, use temporary noise-control methods such as fences, barriers or deflectors (such as muffling devices for combustion engines) and select equipment with lower sound power levels where possible;
- Minimize transportation of construction materials through community areas during regular working time; and
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<td>Soil erosion causing impacts to surface or groundwater.</td>
<td>• Maintain a buffer zone (such as open spaces, row of trees or vegetated areas) between the project site and surrounding areas if possible, to lessen the impact of noise.</td>
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<td>• Implement suitable project design (e.g., establish appropriate erosion and sediment control measures) to minimize soil erosion;</td>
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<td>• Scheduling to avoid heavy rainfall periods; and</td>
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<td>• Use mulch, grasses or compacted soil to stabilize exposed areas promptly.</td>
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<td>Impacts on local communities from traffic obstruction, congestion, and traffic and road safety.</td>
<td>The contractor(s) undertaking works shall implement the following at a minimum:</td>
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<td>• Construction and establishment of haul roads shall be kept to a minimum;</td>
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<td>• Minimise the extent of traffic and construction impacts on adjacent villages and other residential areas where possible; and</td>
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<td>• All traffic signs used for the warning or direction of traffic at road works sites shall comply with appropriate traffic regulations. Homemade signs shall not be used.</td>
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<td>Land and/or water pollution from waste generated (solid, hazardous, and wastewater)</td>
<td>The contractor(s) undertaking works shall implement the following at a minimum:</td>
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<td>• Develop and follow a brief site-specific decommissioning Waste Management Plan (separation of waste streams, storage, provision of bins, site clean-up, bin clean-out schedule, etc.) before commencement of any financed works;</td>
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<td>• Use litter bins, containers and waste collection facilities at all places during works;</td>
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<td>• Store solid waste temporarily on site in a designated place prior to off-site transportation and disposal through a licensed waste collector;</td>
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<td>• On-site and off-site transportation of waste should be conducted to prevent or minimize spills, releases, and exposures to employees and the public;</td>
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<td>• Dispose of waste only at designated place identified and approved by local authority. Open burning or burial of solid waste at the hospital premises shall not be allowed.</td>
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<td>It is prohibited for the contractor(s) to dispose of any debris or construction</td>
<td>Recyclable materials such as packaging material etc., shall be segregated and collected on-site from other waste sources for reuse or recycle (sale); Ensure onsite worker latrine/s be properly operated and maintained to collect and dispose of wastewater; Minimize hazardous waste generation by ensuring hazardous waste is not co-mingled with non-hazardous waste. Collect, transport and disposal of hazardous waste to licensed/permitted hazardous waste sites only following good international industry practice for the waste being handled; and Design training for staff in the segregation of wastes.</td>
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<td>material/paint in environmentally sensitive areas (including watercourses);</td>
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<td>- Comply with all national and good practice regulations regarding health workers’ safety and the Project’s LMP;</td>
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- Appoint a health and safety officer at site, who will have the authority to issue directives for the purpose of maintaining the health and safety of all personnel authorized to enter and/or work on the site.  
- Prepare and implement a simple action plan to cope with risk and emergency (e.g., fire, earthquake, floods, COVID-19 outbreak)  
- Have or receive minimum required training on occupational safety regulations and use of PPE.  
- Undertake training of staff to meet standards for the proper operation and use of equipment.  
- Training of workers in lifting and materials handling techniques in construction and decommissioning projects, including the placement of weight limits above which mechanical assists or two-person lifts are necessary.  
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| **Risks and Impacts** | o Ensuring moving equipment is outfitted with audible back-up alarms  
  - Provide PPE and other safety measures as appropriate during works such as safety glasses with side shields, face shields, hard hats, hi-vis vests and safety shoes, first aid kits, restricted access zones, warning signs, overhead protection against falling debris.  
  - Provide project workers with accessible means to raise workplace concerns | **Responsibilities** |
| Occupational Health and Safety (OHS) risks for workers from leftover health-care wastes, specimens and/or equipment. | The contractor(s) undertaking works shall comply with all national and good practice regulations regarding workers’ safety and the LMP and IPC&WMP for the Project at a minimum. | Contractor(s) |
| Issues related to inappropriate worker accommodations such as close working and poor living conditions which may create conditions for the easy transmission of COVID-19 and the infection of large numbers of people. | The contractor(s) undertaking works shall comply with all national and good practice regulations regarding workers’ safety and the LMP for the Project and implement the following at a minimum:  
  - Wash stations should be provided regularly throughout site, with a supply of clean water, liquid soap and paper towels (for hand drying), with a waste bin (for used paper towels) that is regularly emptied.  
  - Wash stations should be provided wherever there is a toilet, canteen/food and drinking water, or sleeping accommodation, at waste stations, at stores and at communal facilities. Where wash stations cannot be provided (for example at remote locations), alcohol-based hand rub should be provided.  
  - Enhanced cleaning arrangements should be put in place, to include regular and deep cleaning using disinfectant of catering facilities/canteens/food/drink facilities, latrines/toilets/showers, communal areas, including door handles, floors and all surfaces that are touched regularly (ensure cleaning staff have adequate PPE when cleaning consultation rooms and facilities used to treat infected patients)  
  - Worker accommodation that meets or exceeds IFC/EBRD worker accommodation requirements (e.g. in terms of floor type, proximity/no of workers, no ‘hot bedding’, drinking water, washing, bathroom facilities etc.) will be in good state for keeping clean and hygienic, and for cleaning to minimize spread of infection. | Contractor(s) |
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| To minimize pressure on PPE resources: WHO advice on the effectiveness and use of PPE by general public should be followed to ensure that the supplies are not exhausted through ineffective use. | **•** To minimize pressure on PPE resources: WHO advice on the effectiveness and use of PPE by general public should be followed to ensure that the supplies are not exhausted through ineffective use.  
**•** Other measures (such as working water sprinkling systems at crushers and stockpiles, covered wagons, water suppression or surfacing of haul roads etc.) should be used for dust suppression on site before relying upon the use of dust masks (which could unnecessarily reduce the availability of N95/FFP2 masks for use by medical staff performing some duties).  
**•** Undertaking health awareness and education initiatives with construction workers e.g. providing information on COVID-19 symptoms, transition paths etc. | Contractor(s) |
| Workers do not receive the care needed if infected with COVID-19.                 | Contractors should ensure that contracted workers have medical insurance, covering treatment of COVID-19.                                                                                                               | Contractor(s) |
| Increase in sexual exploitation and abuse/ harassment (SEA/H) related to project workforce | The Contractor(s) should at a minimum:  
**•** Comply with all relevant national laws and legislations.  
**•** Include SEA/H requirements in the site-specific construction Health and Safety management plan including aspects relating to preventing GBV and SEA/H and zero tolerance for these behaviours.  
**•** Ensure that workers are well briefed on the GBV and SEA/H requirements in the Health and Safety Plan.  
**•** Provide separate facilities for female and male workers.  
**•** Refer to the Project LMP for further mitigation measures. | Contractor(s) |
| Workers are underaged.                                                            | Child labour or forced labour is absolutely prohibited in the project.                                                                                                                                                 | Contractor(s) |
Annex III. Chance Finds Procedure

Cultural heritage encompasses tangible and intangible heritage which may be recognized and valued at a local, regional, national or global level. **Tangible cultural heritage**, which includes movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Tangible cultural heritage may be located in urban or rural settings, and may be above or below land or under the water. **Intangible cultural heritage**, which includes practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artefacts and cultural spaces associated therewith—that communities and groups recognize as part of their cultural heritage, as transmitted from generation to generation and constantly recreated by them in response to their environment, their interaction with nature and their history.

The list of negative activity attributes which would make an activity ineligible for support includes any activity that would adversely impact cultural heritage assets. In the event that during reconstruction or construction sites of cultural value are found, the following procedures for identification, protection from theft, and treatment of discovered artefacts should be followed and included in standard bidding documents.

Chance find procedures will be used as follows:

(a) Stop the earthworks, construction or land clearing activities in the area of the chance find;
(b) Delineate the discovered site or area;
(c) Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and the relevant Ministry take over;
(d) Notify the supervisory Engineer who in turn will notify the responsible local authorities and the relevant Ministry immediately;
(e) Responsible local authorities and the relevant Ministry would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures;
(f) Decisions on how to handle the finding shall be taken by the responsible authorities and the relevant Ministry;
(g) Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the relevant Ministry; and
(h) Construction work could resume only after permission is given from the responsible local authorities and the relevant Ministry concerning safeguard of the heritage.

These procedures must be referred to as standard provisions in construction contracts. During project supervision, the Site Engineer shall monitor the above regulations relating to the treatment of any chance find encountered are observed.

Relevant findings will be recorded in World Bank Supervision Reports and Implementation Completion Reports will assess the overall effectiveness of the project’s cultural heritage mitigation, management, and activities.
Annex IV. Infection Prevention Control and Waste Management Plan (IPC&WMP)

1 Introduction

The COVID-19 Emergency Responses Project (the Project) will assist the GoPNG in its efforts to prevent, detect and respond to the threat posed by COVID-19 and strengthen national systems for public health preparedness. The main project activities will include risk communication and community engagement (RCCE); training and operational costs for rapid response and surveillance; and strengthening health infrastructure including containerized laboratories, laboratory equipment, isolation centers and intensive care equipment. In order to mitigate the risks associated with medical waste management and disposal, the Project will invest in the procurement of appropriate waste management infrastructure (including wheelee bins, pedal bins, and bin liners), personal protective equipment (PPE), high pressure autoclaves and/or incinerators for waste management, as well as training of medical, laboratory and waste management personnel to ensure compliance with this Infection Prevention Control and Waste Management Plan (IPC&WMP), WHO guidance and GIIP.

1.1 Scope of the IPC&WMP

Infection control and waste management has been identified as a key risk associated with the Project. Workers in health-care facilities are particularly vulnerable to contagions like COVID-19. This IPC&WMP contains detailed procedures, based on World Health Organization (WHO) guidance, for protocols necessary for treating patients and handling medical waste as well as environmental health and safety guidelines for health-care staff, including the necessary PPE. Proper storage and disposal of medical wastes and disinfectant protocols are also included.

The IPC&WMP and will apply to all facilities funded under the Project including laboratories, medical and isolation centers as well as any community outreach programmes.

1.2 Health-care Facility Types

Subcomponent 2.1 will finance the establishment and operation of laboratory facilities in Goroka, Port Moresby (to be determined). Sub-component 2.2 will finance isolation centers, focusing initially on 10 priority provinces to be identified by the National Department of Health (NDOH) during project implementation, depending on how the COVID-19 infection is evolving. All activities will be conducted within existing government facilities/grounds and no new land will be acquired or accessed. The exact size and layout of the facilities, bed capacity, number of health-care workers, and the exact location of the facilities will be determined during project implementation.

2 Infection Prevention and Control

2.1 Introduction

Infection Prevention and Control (IPC) is a practical, evidence-based approach preventing patients and health-care workers from being harmed by avoidable infections and hospital outbreaks. IPC measures apply to all stages of patient care whether in-patients, out–patients, at health stations and in outreach programmes. IPC is also used to protect workers involved in waste management, workers transporting laboratory specimens, and ambulance workers. This section describes the IPC strategies that should be undertaken by health-care workers in the context of the Project.
2.2 COVID-19 Transmission Routes

The main routes of transmission of COVID-19 are respiratory droplets and direct contact. Any person who is in close contact with an infected individual is at risk of being exposed to potentially infective respiratory droplets. Droplets may also land on surfaces where the virus could remain viable; thus, the immediate environment of an infected individual can serve as a source of transmission. Based on the available evidence, WHO recommends droplet and contact precautions for those people caring for COVID-19 patients. WHO continues to recommend airborne precautions for circumstances and settings in which aerosol generating procedures and support treatment are performed, according to risk assessment.

2.3 IPC Strategies

IPC Strategies to prevent or limit transmission in health-care settings include the following:

1. Ensuring triage, early recognition, and source control (isolating patients with suspected COVID-19);
2. Applying standard precautions for all patients;
3. Implementing empiric additional precautions (droplet and contact and, whenever applicable, airborne precautions) for suspected cases of COVID-19;
4. Implementing administrative controls; and
5. Using environmental and engineering controls.

2.3.1 Ensuring Triage, Early Recognition, and Source Control

Clinical triage includes a system for assessing all patients at admission, allowing for early recognition of possible COVID-19 and immediate isolation of patients with suspected disease in an area separate from other patients (source control).

To facilitate the early identification of cases of suspected COVID-19, health care facilities should:

- Encourage health care workers (HCW) to have a high level of clinical suspicion;
- Establish a well-equipped triage station at the entrance to the facility, supported by trained staff;
- Institute the use of screening questionnaires according to the updated case definition. Please refer to the WHO Global Surveillance for human infection with coronavirus disease (COVID-19) for case definitions; and
- Post signs in public areas reminding symptomatic patients to alert HCWs.
2.3.2 Applying Standard Precautions for all Patients

Standard precautions include hand and respiratory hygiene, the use of appropriate personal protective equipment (PPE) according to a risk assessment, injection safety practices, safe waste management, proper linens, environmental cleaning, and sterilization of patient-care equipment.

Respiratory hygiene

Ensure that the following respiratory hygiene measures are used:

- Ensure that all patients cover their nose and mouth with a tissue or elbow when coughing or sneezing;
- Offer a medical mask to patients with suspected COVID-19 while they are in waiting/public areas or in cohorting rooms; and
- Perform hand hygiene after contact with respiratory secretions.

Hand hygiene

Hand hygiene is extremely important to prevent the spread of the COVID-19 virus. All health-care facilities should establish hand hygiene programmes, if they do not have them already, or strengthen existing ones. In addition, rapid activities to prevent the spread of the COVID-19 virus are needed, such as procurement of adequate quantities of hand hygiene supplies; hand hygiene refresher courses and communications campaigns. Cleaning hands using an alcohol-based hand rub or with water and soap should be done according to the instructions known as “My 5 moments for hand hygiene”iv. These are:

1. Before touching a patient;

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2. Before clean/aesthetic procedures;
3. After body fluid exposure/risk;
4. After touching a patient; and
5. After touching patient surroundings.

If hands are not visibly dirty, the preferred method is using an alcohol-based hand rub for 20–30 seconds using the appropriate technique. When hands are visibly dirty, they should be washed with soap and water for 40–60 seconds using the appropriate technique. If soap or alcohol-based hand rub is not available using chlorinated water (0.05%) for handwashing is an option but requires care to avoid causing dermatitis (See Annex 1 for WHO hand cleaning and hand rub posters).

In addition to performing hand hygiene at all five moments, it should be performed in the following situations:

- Before putting on PPE and after removing it;
- When changing gloves; after any contact with a patient with suspected or confirmed COVID-19 infection, their waste or the environment in that patient’s immediate surroundings; and
- After contact with any respiratory secretions; before food preparation and eating; and after using the toilet.

Functional hand hygiene facilities should be present for all health-care workers at all points of care, in areas where PPE is put on or taken off, and where health-care waste is handled. In addition, functional hand hygiene facilities should be available for all patients, family members and visitors, and should be available within 5m of toilets, as well as at the entry/exit of the facility, in waiting rooms and other public areas.

An effective alcohol-based hand rub product should contain between 60% and 80% of alcohol and its efficacy should be proven according to the European Norm 1500 or the standards of the ASTM International (formerly, the American Society for Testing and Materials) known as ASTM E-1174. These products can be purchased on the market, but can also be produced locally in pharmacies using the formula and instructions provided by WHO.

Patient-care equipment cleaning and disinfection procedures

All medical devices are either single-use or reusable ones. Single-use equipment must be discarded, while all reusable equipment must be properly processed between use and between patients, to prevent infections. For proper reprocessing of equipment, all items need to be cleaned with detergent (liquid soap) and water before disinfection and sterilization, to get rid of the organic matter e.g. blood and mucus that may neutralize chemical disinfectant and affecting the efficiency of the disinfectant.

Instruments and other items may be classified based on the risk of transmitting infection into critical, semi-critical or non-critical, depending on the sites.
**Figure 2: Equipment cleaning classification**

<table>
<thead>
<tr>
<th>Category</th>
<th>Application</th>
<th>Type of processing</th>
<th>Example of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical</td>
<td>Sterile tissues or the blood system</td>
<td>Sterilization (by heat or chemicals)</td>
<td>Dressing and suture instruments, surgical instruments, delivery sets, diagnostic catheters, dental instruments, bronchoscopes, cystoscopes, etc.</td>
</tr>
<tr>
<td>Semi-critical</td>
<td>Mucous membranes or non-intact skin</td>
<td>High-level disinfection (HLD) &amp; intermediate level disinfection</td>
<td>Laryngoscope blades, vaginal specula, instruments for MVA, respiratory therapy and anaesthesia equipment, dental impressions, endoscopes, gastroscopes, etc.</td>
</tr>
<tr>
<td>Non-critical</td>
<td>Intact skin</td>
<td>Cleaning, low level Disinfection (depending on contact with the type of patient)</td>
<td>bedpans, toilets, urinals, blood pressure cuffs, ECG leads, thermometers, stethoscopes, beds, bedside tables</td>
</tr>
</tbody>
</table>

**Patient-care equipment cleaning procedure**

- Prepare all cleaning and disinfecting equipment and solution
- Cleaner wear PPE: rubber gloves and boots, impermeable apron. when there is a risk of splash in the face, staff must wear eyes protection and surgical mask.
- Take off any gross soiling on the instrument by rinsing in clean water
- Take instrument apart – fully and immerse all parts in detergent solution, and clean all channels and bores of the instrument
- Ensure all visible soil is take off from the instrument – follow manufacturers’ instructions,
- Rinse thoroughly with clean water
- Dry the instrument (let it dry to– on a clean rack or hang if tubing or items with lumens, away from other dirty items)
- Inspect to ensure the instrument is cleaned

**Patient-care equipment disinfecting procedure**

- Prepare disinfectant solution according to the volume of medical instruments, following notice of disinfectant, cleaner wearing PPE.
• Immerse the cleaned equipment completely in the disinfectant solution. Soak in the solution, duration will depend on the disinfectant recommendations and dilutions. For example: Sodium hypochlorite 0.05%: soak for 30 minutes
• Rinse thoroughly with clear or sterile water (depending on the required level of disinfection and the use of the equipment)
• Sterile water for semi-critical instrument (HLD)
• Clean water for non-critical instrument (low level of disinfectant)
• Let it dry (on a rack)
• Pack the disinfected equipment and store in a clean area

Prevention of needle-stick/sharp injuries

In healthcare settings, injuries from needles or other sharp instruments are the number-one cause of occupational exposure to blood-borne infections. All staff that come in contact with sharps - from doctors and nurses to those who dispose of the trash - are at risk of infections. Improper disposal of sharps also poses a great threat to members of the community.

The term sharps refers to any sharp instrument or object used in the delivery of healthcare services - including hypodermic needles, suture needles, scalpel blades, sharp instruments, intravenous (IV) catheters, and razor blades. Needle stick/sharp injury means the skin is accidentally punctured by a used needle/sharp (e.g. scalpel). The injury is a port of entry for blood-borne diseases, such as hepatitis B (HBV) and hepatitis C (HCV), HIV etc. Exposure to patient’s body fluid also put HCWs at risk of infection. Therefore, they are encouraged to strictly comply with IPC precautions related to body fluid.

The main causes of needle stick/sharp injury include:

• Recapping of needles (identified as the most common cause)
• Unsafe handling of sharp waste (identified as the second most common cause)
• Reuse of safety box
• Manipulation of used sharps (bending, breaking, or cutting needles).
• Unnecessary injections
• Lack of supplies: disposable syringes, sharps-disposal container/safety box
• Failure to place needles in sharps containers immediately after injection
• Passing sharps from hand to hand (e.g. during surgery)
• Lack of management of sharp wastes
• Lack of awareness of the problem
• Lack of training for staff

Principle of the disposal of used needles/sharps:

• Never recap needle/sharp
• Dispose of needles and syringes immediately after use in the safety box.
• Close the safety box, whenever the containers become ¾ full.
• Safely dispose the safety box (e.g. via incinerator with temperature at least of 800o Celsius)
• When it is not immediately disposed, keep safety boxes in appropriate storage, for infectious waste.
Personal Protective Equipment (PPE)

Personal Protective Equipment or PPE consists of equipment and clothing to protect health care workers and patients from infected droplets, surfaces and from aerosol generating procedures. In the context of COVID-19 this includes medical gowns, masks, gloves, goggles and or face shields. The diagram below shows a visual guide to safe PPEvi.

Figure 3: A visual guide to safe PPE
It is essential that Health-care Workers are trained on the correct use, wear, doffing and disposal of PPE including gloves, gowns, facemasks, eye protection and respirators (if available) and check they understand. Annex 2 provides pictorial instructions for the correct steps for donning (putting on) and doffing (safe removal) of PPE for health-care settings.

The type of PPE used when caring for people with COVID-19 will vary according to the setting, type of personnel and activity. Health-care workers involved in the direct care of patients should use gowns, gloves, medical masks and eye protection (goggles, face shields). Table 1 is provided below outlining appropriate PPE for different health care settings.
Table 1: Recommended personal protective equipment (PPE) for use in the context of COVID-19, according to the setting, personnel and type of activity

<table>
<thead>
<tr>
<th>Setting</th>
<th>Target staff or patient</th>
<th>Activity</th>
<th>Type of PPE or procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health-care facilities</td>
<td>Inpatient facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient’s room</td>
<td>Health-care workers</td>
<td>Providing direct care to patients with SARI</td>
<td>Medical mask, gown, gloves, eye protection (goggles or face shield)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aerosol-generating procedures performed on patients with SARI</td>
<td>Respirator N95 or FFP2 standard or equivalent, gown, gloves, eye protection, apron</td>
</tr>
<tr>
<td>Cleaners</td>
<td>Entering patient’s room</td>
<td>Medical mask, gown, heavy-duty gloves, eye protection (if risk of splash from organic material or chemicals), boots or closed work shoes</td>
<td></td>
</tr>
<tr>
<td>Visitors</td>
<td>Entering patient’s room</td>
<td></td>
<td>Medical mask, gown, gloves</td>
</tr>
<tr>
<td>Other areas of patient transit (e.g. wards, corridors)</td>
<td>All staff, including health-care workers</td>
<td>Any activity that does not involve contact with patients</td>
<td>No PPE required</td>
</tr>
<tr>
<td>Triage</td>
<td>Health-care workers</td>
<td>Any</td>
<td>Maintain distance of at least 2 m</td>
</tr>
<tr>
<td>Patients with respiratory symptoms</td>
<td>Only if present</td>
<td>Any</td>
<td>Provide medical mask if tolerated by patient</td>
</tr>
<tr>
<td>Laboratory</td>
<td>Laboratory technicians</td>
<td>Manipulation of respiratory samples</td>
<td>Medical mask, gown, gloves, eye protection (if risk of splash)</td>
</tr>
<tr>
<td>Administrative areas</td>
<td>All staff, including health-care workers</td>
<td>Administrative tasks that do not involve contact with patients</td>
<td>No PPE required</td>
</tr>
</tbody>
</table>

| Outpatient facilities                                  |                                                                          |                                                                                          |
| Consultation room                                      | Health-care workers                                                      | Physical examination of patients with respiratory symptoms                        | Medical mask, gown, gloves, eye protection                                              |
|                                                       | Health-care workers                                                      | Physical examination of patients without respiratory symptoms                   | PPE according to standard precautions and risk assessment                                |
|                                                       | Patients with respiratory symptoms                                      | Any                                                                      | Provide medical mask if tolerated                                                       |
|                                                       | Patients without respiratory symptoms                                   | Any                                                                      | Provide medical mask if tolerated                                                       |
|                                                       | Cleaners                                                                 | Alter and between consultations with patients with respiratory symptoms       | Medical mask, gown, heavy-duty gloves, eye protection (if risk of splash from organic material or chemicals), boots or closed work shoes |
| Waiting room                                           | Patients with respiratory symptoms                                      | Any                                                                      | Provide medical mask if tolerated; immediately move patient to isolation room or separate area away from others; if this is not feasible, ensure distance of at least 2 m from other patients |
|                                                       | Patients without respiratory symptoms                                   | Any                                                                      | Provide medical mask if tolerated                                                       |
| Administrative areas                                   | All staff, including health-care workers                                 | Administrative tasks                                                          | No PPE required                                                                          |
| Triage                                                 | Health-care workers                                                      | Preliminary screening not involving direct contact                           | Maintain distance of at least 1 m; no PPE required                                       |
|                                                       | Patients with respiratory symptoms                                      | Any                                                                      | Maintain distance of at least 1 m; provide medical mask if tolerated                     |
|                                                       | Patients without respiratory symptoms                                   | Any                                                                      | No PPE required                                                                          |

SARI, severe acute respiratory infection.

1 The number of visitors should be restricted. If visitors must enter a patient’s room, they should be provided with clear instructions about how to put on and remove PPE and about performing hand hygiene before putting on and after removing PPE; this should be supervised by a health-care worker.
The protection of frontline health workers is paramount and PPE, including medical masks, respirators, gloves, gowns, and eye protection, must be prioritized for health-care workers and others caring for COVID-19 patients. In view of the global PPE shortage, strategies that can facilitate optimal PPE availability include minimizing the need for PPE in health care settings, ensuring rational and appropriate use of PPE, and coordinating PPE supply chain management mechanisms (Figure 4).

**Figure 4: Strategies to optimize the availability of personal protective equipment (PPE)**

![Figure 4](image)

**Strategies to optimize the availability of PPE**

The following interventions can minimize the need for PPE while protecting health-care workers and other people from exposure to the infection in health-care settings:

- Use physical barriers to reduce exposure to the virus, such as glass or plastic windows. This approach can be implemented in areas where patients first present, such as triage areas or the registration desk at the emergency department.
- Restrict health-care workers from entering the rooms of patients with COVID-19 if they are not involved in direct care. Consider bundling activities to minimize the number of times a room is entered (e.g. check vital signs during medication administration; have food delivered by health-care workers while they perform other care), and plan which activities will be performed at the bedside.
- Ideally visitors should not be allowed. If this is not possible, restrict the number of visitors to areas where patients with COVID-19 are being isolated; restrict the amount of time visitors are allowed to spend in the area; and provide clear instructions about how to put on and remove PPE and perform hand hygiene to ensure visitors avoid self-contamination.
- PPE should be based on the risk of exposure (e.g. type of activity) and the transmission dynamics of the pathogen (e.g. contact, droplet, aerosol). The overuse of PPE has a further impact on supply shortages, as well as increasing waste. Observing the following recommendations will ensure the use of PPE is rationalized.
- Respirators (N95, FFP2 or equivalent standard) have been used for an extended time during previous public health emergencies involving acute respiratory illness when PPE was in short supply. This refers to wearing the same respirator while caring for multiple patients with the same diagnosis without removing the respirator. Evidence indicates that respirators maintain their protection when used for extended periods. However, using the same respirator for more than four hours can lead to discomfort and should be avoided.\textsuperscript{viii}
In some areas access to PPE may be limited or delayed, CDC has suggested measures, described below, that may be adopted in these circumstances. However, in some cases they cannot be considered PPE as their capability to protect HCW is unknown or has not been evaluated.

**Strategies to optimize the supply of PPE and equipment**

1. **Strategies for Extended Use of Eye Protection.**

   Extended use of eye protection is the practice of wearing the same eye protection for repeated close contact encounters with several different patients, without removing eye protection between patient encounters. Extended use of eye protection can be applied to disposable and reusable devices.

   - Eye protection should be removed and reprocessed if it becomes visibly soiled or difficult to see through.
   - If a disposable face shield is reprocessed, it should be dedicated to one HCW and reprocessed whenever it is visibly soiled or removed (e.g., when leaving the isolation area) prior to putting it back on. See protocol for removing and reprocessing eye protection below.
   - Eye protection should be discarded if damaged (e.g., face shield can no longer fasten securely to the provider, if visibility is obscured and reprocessing does not restore visibility).
   - HCW should take care not to touch their eye protection. If they touch or adjust their eye protection, they must immediately perform hand hygiene.
   - HCW should leave patient care area if they need to remove their eye protection. See protocol for removing and reprocessing eye protection below.

   **Use eye protection devices beyond the manufacturer-designated shelf life during patient care activities.**

   - If there is no date available on the eye protection device label or packaging, facilities should contact the manufacturer. The user should visually inspect the product prior to use and, if there are concerns (such as degraded materials), discard the product.

   **Prioritize eye protection for selected activities such as:**

   - During care activities where splashes and sprays are anticipated, which typically includes aerosol generating procedures.
   - During activities where prolonged face-to-face or close contact with a potentially infectious patient is unavoidable.

   **Selected Options for Reprocessing Eye Protection:**

   Adhere to recommended manufacturer instructions for cleaning and disinfection.

   When manufacturer instructions for cleaning and disinfection are unavailable, such as for single use disposable face shields, consider protocol as follows:

   - While wearing gloves, carefully wipe the *inside, followed by the outside* of the face shield or goggles using a clean cloth saturated with neutral detergent solution or cleaner wipe.
   - Carefully wipe the *outside* of the face shield or goggles using a wipe or clean cloth saturated with EPA-registered hospital disinfectant solution.
   - Wipe the outside of face shield or goggles with clean water or alcohol to remove residue.
   - Fully dry (air dry or use clean absorbent towels).
2. Strategies for Optimizing the Supply of Isolation Gowns:

Implementing extended use of isolation gowns*

- Consideration can be made to extend the use of isolation gowns (disposable or cloth) such that the same gown is worn by the same HCW when interacting with more than one patient known to be infected with the same infectious disease when these patients housed in the same location (i.e., COVID-19 patients residing in an isolation cohort). This can be considered only if there are no additional co-infectious diagnoses transmitted by contact among patients. If the gown becomes visibly soiled, it must be removed and discarded as per usual practices.
- Re-use of cloth isolation gowns.
- Disposable gowns are not typically amenable to being doffed and re-used because the ties and fasteners typically break during doffing. Cloth isolation gowns could potentially be untied and retied and could be considered for re-use without laundering in between.
- In a situation where the gown is being used as part of standard precautions to protect HCW from a splash, the risk of re-using a non-visibly soiled cloth isolation gown may be lower. However, for care of patients with suspected or confirmed COVID-19, HCW risk from re-use of cloth isolation gowns without laundering among (1) single HCW caring for multiple patients using one gown or (2) among multiple HCW sharing one gown is unclear. The goal of this strategy is to minimize exposures to HCW and not necessarily prevent transmission between patients. Any gown that becomes visibly soiled during patient care should be disposed of and cleaned.

When No Gowns Are Available

In the situation of severely limited or no available isolation gowns, the following pieces of clothing can be considered as a last resort for care of COVID-19 patients as single use. However, none of these options can be considered PPE, since their capability to protect HCW is unknown. Preferable features include long sleeves and closures (snaps, buttons) that can be fastened and secured.

- Disposable laboratory coats.
- Reusable (washable) patient gowns.
- Reusable (washable) laboratory coats.
- Disposable aprons.
- Combinations of clothing: Combinations of pieces of clothing can be considered for activities that may involve body fluids and when there are no gowns available.
  - Long sleeve aprons in combination with long sleeve patient gowns or laboratory coats.
  - Open back gowns with long sleeve patient gowns or laboratory coats.
  - Sleeve covers in combination with aprons and long sleeve patient gowns or laboratory coats.
  - Reusable patient gowns and lab coats can be safely laundered according to routine procedures.

Laundry operations and personnel may need to be augmented to facilitate additional washing loads and cycles.
Systems are established to routinely inspect, maintain (e.g., mend a small hole in a gown, replace missing fastening ties) and replace reusable gowns when needed (e.g., when they are thin or ripped)

3. Implement limited re-use of facemasks\textsuperscript{xi}.

Limited re-use of facemasks is the practice of using the same facemask by one HCW for multiple encounters with different patients but removing it after each encounter. As it is unknown what the potential contribution of contact transmission is for SARS-CoV-2, care should be taken to ensure that HCW do not touch outer surfaces of the mask during care, and that mask removal and replacement be done in a careful and deliberate manner.

- The facemask should be removed and discarded if soiled, damaged, or hard to breathe through.
- Not all facemasks can be re-used.
- Facemasks that fasten to the provider via ties may not be able to be undone without tearing and should be considered only for extended use, rather than re-use.
- Facemasks with elastic ear hooks may be more suitable for re-use.
- HCW should leave patient care area if they need to remove the facemask. Facemasks should be carefully folded so that the outer surface is held inward and against itself to reduce contact with the outer surface during storage. The folded mask can be stored between uses in a clean sealable paper bag or breathable container.

Prioritize facemasks for selected activities such as:

For provision of essential surgeries and procedures

- During care activities where splashes and sprays are anticipated.
- During activities where prolonged face-to-face or close contact with a potentially infectious patient is unavoidable.
- For performing aerosol generating procedures if respirators are no longer available.

When No Facemasks Are Available, Options Include:

- Use a face shield that covers the entire front (that extends to the chin or below) and sides of the face with no facemask.
- Consider use of expedient patient isolation rooms for risk reduction: Portable fan devices with high-efficiency particulate air (HEPA) filtration that are carefully placed can increase the effective air changes per hour of clean air to the patient room, reducing risk to individuals entering the room without respiratory protection. US National Institute for Occupational Safety and Health (NIOSH) has developed guidance for using portable HEPA filtration systems to create expedient patient isolation rooms. The expedient patient isolation room approach involves establishing a high-ventilation-rate, negative pressure, inner isolation zone that sits within a “clean” larger ventilated zone.
- Consider use of ventilated headboards: NIOSH has developed the ventilated headboard that draws exhaled air from a patient in bed into a HEPA filter, decreasing risk of HCW exposure to patient-generated aerosol. This technology consists of lightweight, sturdy, and adjustable aluminium framing with a retractable plastic canopy. The ventilated headboard can be deployed in combination with HEPA fan/filter units to provide surge isolation capacity within a variety of
environments, from traditional patient rooms to triage stations, and emergency medical shelters.

- **HCW use of homemade masks:** In settings where facemasks are not available, HCW might use homemade masks (e.g., bandana, scarf) for care of patients with COVID-19 as a last resort. **However, homemade masks are not considered PPE since their capability to protect HCW is unknown. Caution should be exercised when considering this option.** Homemade masks should ideally be used in combination with a face shield that covers the entire front (that extends to the chin or below) and sides of the face.

Precautions to be implemented by health-care workers caring for people with suspected or actual COVID-19 include using PPE appropriately. The rational, correct, and consistent use of PPE also helps reduce the spread of pathogens. PPE effectiveness depends strongly on adequate and regular supplies, adequate staff training, appropriate hand hygiene, and appropriate human behavior\textsuperscript{xii}.

### 2.3.3 Implementing Empiric Additional Precautions

**Contact and droplet precautions**

- in addition to using standard precautions, all individuals, including family members, visitors and HCWs, should use contact and droplet precautions before entering the room of suspected or confirmed COVID-19 patients;
- patients should be placed in adequately ventilated single rooms. For general ward rooms with natural ventilation, adequate ventilation is considered to be 60 L/s per patient;
- when single rooms are not available, patients suspected of having COVID-19 should be grouped together;
- all patients’ beds should be placed at least 1 metre apart regardless of whether they are suspected to have COVID-19;
- where possible, a team of HCWs should be designated to care exclusively for suspected or confirmed cases to reduce the risk of transmission;
- HCWs should use a medical mask (for specifications, see reference World Health Organization.xiii WHO Infection prevention and control of epidemic- and pandemic-prone acute respiratory diseases in health care);
- HCWs should wear eye protection (goggles) or facial protection (face shield) to avoid contamination of mucous membranes;
- HCWs should wear a clean, non-sterile, long-sleeved gown;
- HCWs should also use gloves;
- the use of boots, coverall, and apron is not required during routine care;
- after patient care, appropriate doffing and disposal of all PPE and hand hygiene should be carried out.
- A new set of PPE is needed when care is given to a different patient (for alternatives in case of restricted PPE supplies see above strategies to optimize the availability of PPE);
- equipment should be either single-use and disposable or dedicated equipment (e.g. stethoscopes, blood pressure cuffs and thermometers). If equipment needs to be shared among patients, clean and disinfect it between use for each individual patient (e.g. by using ethyl alcohol 70%) \textsuperscript{xiv} (https://www.who.int/infectionprevention/publications/decontamination/en/)

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\textsuperscript{xii} WHO Infection prevention and control of epidemic- and pandemic-prone acute respiratory diseases in health care.

\textsuperscript{xiii} WHO Infection prevention and control of epidemic- and pandemic-prone acute respiratory diseases in health care.

\textsuperscript{xiv} WHO Infection prevention and control of epidemic- and pandemic-prone acute respiratory diseases in health care.
• HCWs should refrain from touching eyes, nose, or mouth with potentially contaminated gloved or bare hands.
• avoid moving and transporting patients out of their room or area unless medically necessary. Use designated portable X-ray equipment or other designated diagnostic equipment. If transport is required, use predetermined transport routes to minimize exposure for staff, other patients and visitors, and have the patient wear a medical mask;
• ensure that HCWs who are transporting patients perform hand hygiene and wear appropriate PPE as described in this section;
• notify the area receiving the patient of any necessary precautions as early as possible before the patient’s arrival;
• routinely clean and disinfect surfaces with which the patient is in contact;
• limit the number of HCWs, family members, and visitors who are in contact with suspected or confirmed COVID-19 patients; and
• maintain a record of all persons entering a patient’s room, including all staff and visitors.

Additional airborne precautions are required for aerosol-generating procedures

Some aerosol-generating procedures, such as tracheal intubation, non-invasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, and bronchoscopy, have been associated with an increased risk of transmission of coronaviruses.

Ensure that HCWs performing aerosol-generating procedures:

• perform procedures in an adequately ventilated room – that is, natural ventilation with air flow of at least 160 L/s per patient or in negative-pressure rooms with at least 12 air changes per hour and controlled direction of air flow when using mechanical ventilation;
• use a particulate respirator at least as protective as US NIOSH-certified N95, European Union (EU) standard FFP2, or equivalent. When Health Care Workers put on a disposable particulate respirator, they must always perform the seal check. Note that facial hair (e.g. a beard) may prevent a proper respirator fit;
• use eye protection (i.e. goggles or a face shield);
• wear a clean, non-sterile, long-sleeved gown and gloves. If gowns are not fluid resistant, HCWs should use a waterproof apron for procedures expected to create high volumes of fluid that might penetrate the gown;
• limit the number of persons present in the room to the absolute minimum required for the patient’s care and support.xv

2.3.4 Implementing Administrative Controls

Administrative controls and policies for the prevention and control of transmission of COVID-19 within the health-care setting include, but may not be limited to: establishing sustainable IPC infrastructures and activities; educating patients’ caregivers; developing policies on the early recognition of acute respiratory infection potentially caused by COVID-19 virus; ensuring access to prompt laboratory testing for identification of the etiologic agent; preventing overcrowding, especially in emergency departments; providing dedicated waiting areas for symptomatic patients; appropriately isolating hospitalized patients; ensuring adequate supplies of PPE; and ensuring adherence to IPC policies and procedures for all aspects of health care. xvii
Administrative measures related to health-care workers.

- provision of adequate training for HCWs;
- ensuring an adequate patient-to-staff ratio;
- establishing a surveillance process for acute respiratory infections potentially caused by COVID-19 virus among HCWs;
- ensuring that HCWs and the public understand the importance of promptly seeking medical care; and
- monitoring HCW compliance with standard precautions and providing mechanisms for improvement as needed.

2.3.5 Using Environmental and Engineering Controls

These controls address the basic infrastructure of the health-care facility and aim to ensure adequate ventilation in all areas in the health-care facility, as well as adequate environmental cleaning. Additionally, separation of at least 1 metre should be maintained between all patients. Both spatial separation and adequate ventilation can help reduce the spread of many pathogens in the health-care setting. Ensure that cleaning and disinfection procedures are followed consistently and correctly.

Cleaning environmental surfaces with water and detergent and applying commonly used hospital disinfectants (such as sodium hypochlorite) is effective and sufficient. Manage laundry, food service utensils and medical waste in accordance with safe routine procedures.

WASH in healthcare settings

Existing recommendations for water, sanitation and hygiene measures in health care settings are important for providing adequate care for patients and protecting patients, staff, and caregivers from infection risks. The following actions are particularly important: (i) managing excreta (faeces and urine) safely, including ensuring that no one comes into contact with it and that it is treated and disposed of correctly; (ii) engaging in frequent hand hygiene using appropriate techniques; (iii) implementing regular cleaning and disinfection practices; and (iv) safely managing health care.

Waste produced by COVID-19 cases. Other important measures include providing sufficient safe drinking-water to staff, caregivers, and patients; ensuring that personal hygiene can be maintained, including hand hygiene, for patients, staff and caregivers; regularly laundering bedsheets and patients’ clothing; providing adequate and accessible toilets (including separate facilities for confirmed and suspected cases of COVID-19 infection); and segregating and safely disposing of health-care waste.

Hand hygiene materials

All facilities should provide hand hygiene stations. Hand hygiene stations can consist of either water, such as sinks attached to a piped-water supply, refillable water reservoir or clean, covered buckets with taps equipped with plain soap or alcohol-based hand rub dispensers where running water is not available. Where alcohol-based hand rub or bar soap is not feasible, a liquid soap solution, mixing detergent with water can be used. The ratio of detergent to water will depend on types and strengths of locally available product. Soap does not need to be antibacterial and evidence indicates that normal soap is effective in inactivating enveloped viruses, such as coronaviruses. Alcohol-based hand rub should contain at least 60% alcohol. Such products should be certified and, where supplies are limited or prohibitively expensive, can be produced locally according to WHO-recommended formulations.
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. 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.

Water used in health-care facilities should use potable water or a centralized disinfection system where possible. Conventional, centralized water treatment methods that use filtration and disinfection should deactivate the COVID-19 virus. The COVID-19 virus is likely to be more sensitive to chlorine and other oxidant disinfection processes than many other viruses. For effective centralized disinfection, there should be a residual concentration of free chlorine of $\geq 0.5$ mg/L after at least 30 minutes of contact time at pH $< 8.0$. A chlorine residual should be maintained throughout the distribution system.

Sanitation and plumbing

People with suspected or confirmed COVID-19 disease should be provided with their own flush toilet or latrine that has a door that closes to separate it from the patient’s room. Flush toilets should operate properly and have functioning drain traps. When possible, the toilet should be flushed with the lid down to prevent droplet splatter and aerosol clouds. If it is not possible to provide separate toilets, 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). Further, and consistent with existing guidance, staff and health care workers should have toilet facilities that are separate from those used by all patients.

WHO recommends the use of standard, well-maintained plumbing, such as sealed bathroom drains, and backflow valves on sprayers and faucets to prevent aerosolized faecal matter from entering the plumbing or ventilation system, together with standard wastewater treatment. If facilities are connected to sewers, a risk assessment should be conducted to confirm that wastewater is contained within the system (that is, the system does not leak) before its arrival at a functioning treatment or disposal site, or both. Risks pertaining to the adequacy of the collection system or to treatment and disposal methods should be assessed following a safety planning approach, with critical control points prioritized for mitigation.

Toilets and the handling of faeces

It is critical to conduct hand hygiene when there is suspected or direct contact with faeces (if hands are dirty, then soap and water are preferred to the use of an alcohol-based hand rub). If the patient is unable to use a latrine, excreta should be collected in either a diaper/continence pad or a clean bedpan and immediately and carefully disposed of into a separate toilet or latrine used only by suspected or confirmed cases of COVID-19. In all health care settings, including those with suspected or confirmed COVID-19 cases, faeces must be treated as a biohazard and handled as little as possible.

After disposing of excreta, bedpans should be cleaned with a neutral detergent and water, disinfected with a 0.5% chlorine solution, and then rinsed with clean water. The rinse water should be disposed of in a drain, toilet or latrine. Other effective disinfectants include commercially available quaternary ammonium compounds, such as cetylpyridinium chloride, used according to manufacturer’s instructions, and peracetic or peroxyacetic acid at concentrations of 500–2000 mg/L.
Anyone handling faeces should follow WHO contact and droplet precautions and use PPE to prevent exposure, including long-sleeved gowns, gloves, boots, masks, and goggles or a face shield. If diapers/incontinence pads are used, they should be disposed of as infectious waste as they would be in all situations. Workers should be trained in how to put on, use, and remove PPE so that these protective barriers are not breached. If PPE is not available or the supply is limited, hand hygiene should be regularly practiced, and workers should keep at least 1 m distance from any suspected or confirmed cases.

Emptying latrines and holding tanks and transporting excreta off-site.

There is no reason to empty latrines and holding tanks of excreta from suspected or confirmed COVID-19 cases unless they are at capacity. In general, the best practices for safely managing excreta should be followed. Latrines or holding tanks should be designed to meet patient demand, considering potential sudden increases in cases, and there should be a regular schedule for emptying them based on the wastewater volumes generated. PPE (long-sleeved gown, gloves, boots, masks, and goggles or a face shield) should be worn at all times when handling or transporting excreta off site, and great care should be taken to avoid splashing. For crews, this includes pumping out tanks or unloading pumper trucks. After handling the waste and once there is no risk of further exposure, individuals should safely remove their PPE and perform hand hygiene before entering the transport vehicle. Soiled PPE should be put in a sealed bag for later safe laundering.

Safely disposing of greywater or water from washing PPE, surfaces and floors.

Current WHO recommendations are 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 soakaway pit. If greywater is disposed of in a soakaway 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.

Environmental cleaning, laundry and disinfection procedures

Recommended cleaning and disinfection procedures for health care facilities should be followed consistently and correctly. Cleaning environmental surfaces with water and detergent and applying commonly used hospital disinfectants (such as sodium hypochlorite) is effective and sufficient. Also manage laundry, food service utensils and medical waste in accordance with safe routine procedures.

Laundry should be done and surfaces in all environments in which COVID-19 patients receive care (treatment units, community care centres) should be cleaned at least once a day and when a patient is discharged.

Many disinfectants are active against enveloped viruses, such as the COVID-19 virus, including commonly used hospital disinfectants. Currently, WHO recommends using:

- 70% ethyl alcohol to disinfect small areas between uses, such as reusable dedicated equipment (for example, thermometers);
• sodium hypochlorite at 0.1% (1000 ppm) for disinfecting surfaces and 0.5% (5000 ppm) for disinfection of blood or bodily fluids spills in health-care facilities.

All individuals dealing with soiled bedding, towels, and clothes from patients with COVID-19 infection should wear appropriate PPE before touching soiled items, including heavy duty gloves, a mask, eye protection (goggles or a face shield), a long-sleeved gown, an apron if the gown is not fluid resistant, and boots or closed shoes. They should perform hand hygiene after exposure to blood or body fluids and after removing PPE. Soiled linen should be placed in clearly labelled, leak-proof bags or containers, after carefully removing any solid excrement and putting it in a covered bucket to be disposed of in a toilet or latrine. Machine washing with warm water at 60–90°C (140–194°F) with laundry detergent is recommended. The laundry can then be dried according to routine procedures. If machine washing is not possible, linens can be soaked in hot water and soap in a large drum using a stick to stir and being careful to avoid splashing. The drum should then be emptied, and the linens soaked in 0.05% chlorine for approximately 30 minutes. Finally, the laundry should be rinsed with clean water and the linens allowed to dry fully in the sunlight.xxiii


Cleaning and disinfection of biomedical devices

Sterilization or decontamination of items, equipment and medical devices is a complex and highly specialized subject. All patient care surfaces, medical devices and equipment used in health care have the potential to become contaminated with microorganisms. Once contaminated, these items can pose a risk to patients, staff and visitors. As an essential component of IPC strategies, all health-care facilities should implement a standardized operating procedure for the safe and effective decontamination of high-touch patient care areas and all reusable items and equipment to prevent cross-infection. It is essential that facilities have a dedicated area for the decontamination of reusable items and equipment. The WHO manual ‘Decontamination and Reprocessing of Medical Devices for Health-care Facilities’ outlines the decontamination lifecycle, including specific cleaning, disinfection and sterilization methods applied to medical devices. Always follow the device manufacturer’s instructions for decontamination so as to not cause any damage and ensure proper decontamination.xxv

2.4 Isolation Rooms

2.4.1 Isolation Room Requirements

Isolation rooms should be designed as follows:

• be single rooms with attached bathrooms (or with a dedicated commode);
• ideally be under negative pressure (neutral pressure may be used, but positive pressure rooms should be avoided)
• be sited away from busy areas or close to vulnerable or high-risk patients, to minimize chances of infection spread;
• have dedicated equipment (for example blood pressure machine, peak flow meter and stethoscope
• have signs on doors to control entry to the room, with the door kept closed; and
• have an ante-room for staff to put on and take off PPE and to wash/decontaminate before and after providing treatment.

2.4.2 Preparation of isolation Room / unit

The isolation room should be prepared as follows:

• Isolate infectious patient in a single room
• If there is no single room, isolate in the cohort room. In cohort room, always keep suspected cases separate from confirmed cases
• If single and cohort room, keep the single room for suspected cases and the cohort room for confirmed cases
• Avoid movement of infectious suspected and confirmed patients (only if crucial)
• Limit number of visitor (ideally only one)
• Staff help the visitor select PPE base on route of transmission, visitor must be trained for wearing PPE
• Put a clear sign of restrictive area and fence around isolation room/unit
• Set up isolation room/unit as per standard
• Prepare the isolation room and ensure refurbishment of PPE/material.

PPE should be kept on the trolley at all times so that it is always available for healthcare workers.

The PPE to wear will depends on the type of isolation precautions; therefore several PPE procedures are possible. Keep in mind the steps of removing the PPE (from more contaminated to less), this will guide the step of putting on the PPE.

2.4.3 HCWs/staff in the isolation room /unit

Apply IPC standard and adequate additional precaution(s) based on route of transmission.

Exclusively assigned trained staff (medical and non-medical)

• If HCW is not trained, he/she must not wear PPE and enter in the isolation room

Prior entering to the room:

• HCW must record their name and contact details
• Perform hand hygiene and wear PPE for identify route of transmission (following PPE procedure)

After contact with isolated patient:

• HCW must safely take off PPE, and thoroughly wash hands precautions (following PPE procedure)
2.5 Collecting and handling laboratory specimens from patients with suspected COVID-19.

All specimens collected for laboratory investigations should be regarded as potentially infectious. HCWs who collect, handle, or transport clinical specimens should adhere rigorously to the following standard precaution measures and biosafety practices to minimize the possibility of exposure to pathogens:

- Ensure that HCWs who collect specimens use appropriate PPE (i.e. eye protection, a medical mask, a long-sleeved gown, and gloves). If the specimen is collected during an aerosol-generating procedure, personnel should wear a particulate respirator at least as protective as a US NIOSH-certified N95, an EU standard FFP2, or the equivalent;
- Ensure that all personnel who transport specimens are trained in safe handling practices and spill decontamination procedures;
- Place specimens for transport in leak-proof specimen bags (secondary containers) that have a separate sealable pocket for the specimen (a plastic biohazard specimen bag), with the patient’s label on the specimen container (the primary container), and a clearly written laboratory request form;
- Ensure that laboratories in health care facilities adhere to appropriate biosafety practices and transport requirements, according to the type of organism being handled;
- Deliver all specimens by hand whenever possible. DO NOT use pneumatic-tube systems to transport specimens;
- Document clearly each patient’s full name, date of birth and “suspected COVID-19” on the laboratory request form. Notify the laboratory as soon as possible that the specimen is being transported. xxvi

2.6 Management of Dead Bodies

While the risk of transmission of COVID-19 from handling the body of a deceased person is low, health care workers and others handling dead bodies should apply standard precautions at all times. Health care workers or mortuary staff preparing the body should wear: scrub suit, impermeable disposable gown (or disposable gown with impermeable apron), gloves, mask, face shield (preferably) or goggles, and boots. After use, PPE should be carefully removed and decontaminated or disposed as infectious waste as soon as practicable and hand hygiene should be performed. The body of a deceased person confirmed or suspected to have COVID-19 should be wrapped in cloth or fabric and transferred as soon as possible to the mortuary area. Body bags are not necessary for COVID-19 virus although they may be used for other reasons (e.g. excessive body fluid leakage).

The responsible authority within the health-care facility should organize and prepare a team for dead body management. This team should have received appropriate training. They should have the necessary materials and PPE to prepare the body for burial. xxvii
3 Health-Care Waste Management

3.1 Introduction

The term health-care waste includes all the waste generated within health-care facilities, research centres and laboratories related to medical procedures. The guiding principle for health-care waste is to apply cradle-to-grave management to avoid/minimize cross-infection in health-care facilities, such as laboratories and isolation units, and community exposure. This section describes the waste management strategies that should be implemented and followed in the context of the Project.

3.2 Types of Health-Care Waste and Relative Amounts

In general, between 75% and 90% of the waste produced in a HCF is comparable to domestic waste and usually called “non-hazardous” or “general health-care waste”. It comes mostly from the administrative, kitchen and housekeeping functions at health-care facilities and may also include packaging waste and waste generated during maintenance of health-care buildings. The remaining 10–25% of health-care waste is regarded as “hazardous” and may pose a variety of environmental and health risks (Figure 5).

Figure 5: Typical waste compositions in health-care facilities

These numbers suggest that overall, the volume of material classified as hazardous is relatively small. However, should innocuous waste come into contact with hazardous waste, the entire volume becomes hazardous and must be treated as such. Failing to separate such wastes, increases the total volume and complexity of waste to be disposed of, putting stress and cost on infrastructure and systems. Separation of waste is therefore a key component of effective waste management. Also, given the infectious nature of the novel coronavirus, some wastes that are traditionally classified as non-hazardous may be considered hazardous and requires special handling and awareness, as they may pose an infectious risk to healthcare workers in contact with the waste.

Wastes from health facilities typically fall into the following categories:

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14 Safe management of wastes from health-care activities. Geneva; World Health Organisation; 2014. P3
## Table 2 – Categories of Healthcare Wastes\textsuperscript{15}

<table>
<thead>
<tr>
<th>Waste categories</th>
<th>Descriptions and examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hazardous health-care waste</strong></td>
<td></td>
</tr>
<tr>
<td>Infectious waste</td>
<td>Waste known or suspected to contain pathogens and pose a risk of disease transmission, e.g., waste and waste water contaminated with blood and other body fluids, including highly infectious waste such as laboratory cultures and microbiological stocks; and waste including excreta and other materials that have been in contact with patients infected with highly infectious diseases in isolation wards.</td>
</tr>
<tr>
<td>Sharps waste</td>
<td>Used or unused sharps, e.g., hypodermic, intravenous or other needles; auto-disable syringes; syringes with attached needles; infusion sets; scalpels; pipettes; knives; blades; broken glass.</td>
</tr>
<tr>
<td>Pathological waste</td>
<td>Human tissues, organs or fluids; body parts; foetuses; unused blood products.</td>
</tr>
<tr>
<td>Pharmaceutical waste, cytotoxic waste</td>
<td>Pharmaceuticals that are expired or no longer needed; items contaminated by, or containing, pharmaceuticals. Cytotoxic waste containing substances with genotoxic properties, e.g., waste containing cytostatic drugs (often used in cancer therapy); genotoxic chemicals.</td>
</tr>
<tr>
<td>Chemical waste</td>
<td>Waste containing chemical substances, e.g., laboratory reagents; film developer; disinfectants that are expired or no longer needed; solvents; waste with high content of heavy metals, e.g., batteries, broken thermometers and blood pressure gauges.</td>
</tr>
<tr>
<td>Radioactive waste</td>
<td>Waste containing radioactive substances, e.g., unused liquids from radiotherapy or laboratory research; contaminated glassware, packages or absorbent paper; urine and excreta from patients treated or tested with unsealed radionuclides; sealed sources.</td>
</tr>
<tr>
<td><strong>Non-hazardous or general health-care waste</strong></td>
<td>Waste that does not pose any specific biological, chemical, radioactive or physical hazard.</td>
</tr>
</tbody>
</table>

Wastes that may be generated from laboratories and isolation centers to be supported by the Project could include non-infected solid waste (e.g. packaging waste), infected solid waste (e.g. syringes), liquid waste (e.g. blood and other body fluids), and air emissions (e.g. from incinerators). The exact types and quantities (weight and volume) of waste generated are not yet known and will be identified during project implementation. To understand where and how much waste is generated, the health-care facilities should use a simple table as a starting point (Figure 6)\textsuperscript{xxx}.

\textsuperscript{15} Safe management of wastes from health-care activities. Geneva; World Health Organisation; 2014
3.3 Waste Management Measures

3.3.1 Waste Minimization

The health-care facilities should consider practices and procedures to minimize waste generation, without sacrificing patient hygiene and safety considerations.

3.3.2 Waste Separation

All HCFs supported by the Project shall organize waste segregation at sources. The various waste streams should be segregated and handled in accordance with the following WHO guidelines as close as practicable and safely to the point of generation\textsuperscript{xxxi}.

The simplest and safest waste segregation system is to separate all hazardous waste from non-hazardous general waste at the point of generation. Infectious waste bins\textsuperscript{17} should be located as close as possible to where waste is generated (e.g. nursing stations, procedure rooms or points of care). Placing sharps containers and segregation bins on treatment trolleys enables medical staff to segregate waste at the bedside or other treatment site. Placing the general waste container close to the sink or under a towel dispenser will encourage staff to place towels into the non-infectious receptacle.

\textsuperscript{16} Safe management of wastes from health-care activities. Geneva; World Health Organisation; 2014, P62

\textsuperscript{17} All bins MUST use appropriate bin liners for safe handling.
Table 3 – Handling of wastes at point of generation\textsuperscript{18}

<table>
<thead>
<tr>
<th>Waste categories</th>
<th>Colour of container and markings</th>
<th>Type of container</th>
<th>Collection frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infectious waste</td>
<td>Yellow with biohazard symbol (highly infectious waste should be additionally marked HIGHLY INFECTIONOUS.)</td>
<td>Leak-proof strong plastic bag placed in a container (bags for highly infectious waste should be capable of being autoclaved).</td>
<td>When three-quarters filled or at least once a day.</td>
</tr>
<tr>
<td>Sharp waste</td>
<td>Yellow, marked SHARPS with biohazard symbol.</td>
<td>Puncture-proof container.</td>
<td>When filled to the line or three-quarters filled.</td>
</tr>
<tr>
<td>Pathological waste</td>
<td>Yellow with biohazard symbol.</td>
<td>Leak-proof strong plastic bag placed in a container.</td>
<td>When three-quarters filled or at least once a day.</td>
</tr>
<tr>
<td>Chemical and pharmaceutical waste</td>
<td>Brown, labelled with appropriate hazard symbol.</td>
<td>Plastic bag or rigid container.</td>
<td>On demand.</td>
</tr>
<tr>
<td>General health-care waste</td>
<td>Black.</td>
<td>Plastic bag inside a container or container which is disinfected after use.</td>
<td>When three-quarters filled or at least once a day.</td>
</tr>
</tbody>
</table>

However, to ensure staff and patients are protected, the hazardous waste portion is very commonly separated into two parts: used sharps and potentially infectious items. Consequently, the segregation into separate containers of general non-hazardous waste, potentially infectious waste and used sharps is often referred to as the “three-bin system\textsuperscript{32}.”

\textbf{Figure 7: Three-Bin System\textsuperscript{19}}

This makes it easier to put waste items into the correct container and maintains the necessary segregation during transport, storage, treatment and disposal. Additional labelling of waste containers is used to identify the source, record the type and quantities of waste produced in each area. A simple approach is to attach a label to each filled bag with the details of the medical area, date and time of

\textsuperscript{18} Safe management of wastes from health-care activities. Geneva; World Health Organisation; 2014
\textsuperscript{19} Safe management of wastes from health-care activities. Geneva; World Health Organisation; 2014
closure of the bag and the name of the person filling out the label. This allows any problems with waste segregation to be traced back to the point of generation.

An international hazard symbol on each waste bag - such as the biohazard symbol below - should also be used.

![Biohazard Symbol](image.png)

There are 19 public hospitals in PNG that operate a color-coded bag system for the collection, storage, and transfer of medical wastes: green (general waste), pink (radioactive waste), and red (hazardous chemical waste). Containers are also provided for the safe disposal of sharps. The facilities installed as part of the Project should adopt this system to avoid confusion and ensure consistency with existing waste collection systems.

### 3.3.3 Waste Handling and Collection

At all times the waste must be handled safely. Waste bags/bins and sharp containers should be filled to no more than three-quarters full (or to the fill line on sharps bins when marked). Once this level is reached, they should be sealed and double bagged (if possible), ready for collection. Plastic bags should never be stapled but may be tied in a knot or sealed with a plastic tag or tie. Replacement bags or containers should be available at each waste generation area.

Collection times should be fixed and appropriate to the quantity of waste produced in each area of the health-care facility. Generally, pathological and infectious waste should be collected at least once per day. General waste should not be collected at the same time, or in the same trolley, as infectious or other hazardous wastes. The frequency of collection should be refined through experience to ensure that there are no overflowing waste containers at any time.

On-site transportation should take place whenever possible during less busy times (i.e. in the evenings or very early morning). Separate routes for transporting hazardous and non-hazardous waste should be planned and used. In general, a waste route should follow the principle from “clean to dirty”. Collection should start from the most hygienically sensitive medical areas (e.g. intensive care, dialysis, operating theatres) and follow a fixed route around other medical areas and interim storage locations. xxxiii. Transport staff should wear adequate PPE including gloves, closed shoes, overalls and masks. Education and training must be provided to all waste transport workers and include how to safely handle waste containers that leak or are broken.

Health-care waste can be bulky and heavy and should be transported by using wheeled trolleys or carts that are not used for any other purpose. Waste, especially hazardous waste, should never be

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20 Safe management of wastes from health-care activities. Geneva; World Health Organisation; 2014
transported by hand due to the risk of accident or injury from infectious material or incorrectly disposed sharps that may protrude from a container. It is recommended that spare trolleys are available in the case of breakdowns and maintenance.

Waste workers are one of the most important sanitary barriers to keep communities safe. Current scientific research has not provided evidence that waste management is a vector for the transmission of COVID-19, but considering waste workers are essential workers, additional measures should be considered such as:

- Strict adherence to enhanced hygiene norms, including frequent change and cleaning of PPE and professional clothing; replacing professional gloves in the event of breakage or any incident of potential contamination; sanitizing regularly facilities, vehicle cabins and other equipment. An important measure here is to make sure that where masks are usually worn, the workers are removing masks and gloves without getting in contact with them. This means using correct techniques for putting the mask on and taking it off (see Annex 2).
- Adaptation (as much as possible and considering the particularities of the waste collection systems) of the behavior in order to avoid contamination between workers in teams like strict respect of the distance between people (>1m), limiting as few as possible workers in the same area (control room, canteens, changing rooms) and all precautionary measures helping at preserving health of workers in safe occupational conditions.
- Direct contact (without gloves) with bins or bags should be avoided.
- Uniforms should be changed daily or cleaned - cleaning of work clothes and shoes minimizes the possibility of dispersing the virus and limiting its transmission.
- If possible, put a disposable set of gloves, on a daily basis, in direct contact with workers’ skin, before wearing usual work gloves.
- Make sure that there are disinfectants and alcohol hand rub hand available to waste collectors and workers.
- Drivers and collectors should avoid contact with residents and employees from serviced business.

3.3.4 Aggregation and Temporary Storage

A storage location for health-care waste should be designated inside the health-care facility. These storage areas should be sized according to the quantities of waste generated and the frequency of collection. These areas must be totally enclosed and separate from supply rooms or food preparation areas. Only authorized staff should have access to the waste storage areas. Equipment for accidental spill/leakage should be available. Proper maintenance and disinfection of the storage areas should be carried out.

- **General non-hazardous waste storage**: General non-hazardous waste should be stored and kept for collection to the communal landfill/dumpsite or communal waste incinerator. It should be collected at least every week. The storage area should be enclosed, paved and connected to a public road. The gate should be big enough that the collection vehicles can enter.
- **Infectious and sharp waste storage**: The storage place must be identifiable as an infectious waste area by using the biohazard symbol. Floors and walls should be sealed or tiled to allow
3.4 Waste Disposal

3.4.1 Solid Waste Disposal

Informal disposal may lead to contamination of soil and groundwater, but more importantly, to further spreading of the virus to nearby communities. Therefore, final disposal of healthcare wastes from facilities financed by the Project must be either off-site to an approved facility or to a permitted on-site incinerator:

- For non-infectious solid waste, disposal at an approved/licensed landfill maybe the most practical waste disposal option.
- For non-infectious hazardous waste (e.g. fly/bottom ash), disposal at a facility licensed to take hazardous wastes.
- For infectious waste, high temperature incineration or autoclaving solutions are preferable if available. High combustion incinerators maybe funded by the project and should be permitted and equipped with air emission control systems, such as scrubbers. The following waste categories should not be incinerated:
  - mercury thermometers (preferably collect for mercury recovery);
  - pressurized containers (disposal in approved facility);
  - polyvinyl chloride (PVC) plastics such as intravenous sets, catheters and PVC containers for sharps (disposal in approved facility);
  - vials of vaccines (disposal in approved facility);
  - anatomical wastes or body parts (disposal in approved facility)
  - radioactive/radiographic wastes (disposal in approved facility).
- For infectious waste at facilities that do not have incinerators, burial may be the only option. This will be addressed during project implementation.

3.4.2 Transitional Arrangements for Infectious Waste (if required)

Some low-resource areas may lack the regional infrastructure to treat health-care and other infectious and hazardous waste. Even if the right treatment for infectious waste is available, in pandemics the amount of health-care waste generated is usually much more than usual, so sanitary landfills can provide an acceptable alternative route for safe disposal. Furthermore, fuel supply for the incinerators may be an issue. In those cases, and as an exceptional measure, the waste produced in health-care facilities during the COVID-19 Pandemics may have to be stored in sanitary or engineered landfills in a secured and separated area, isolated from the regular waste, and with immediate daily cover. The main purpose of such measures is to ensure that health-care waste won’t be exposed nor mixed to non-infectious waste; waste workers will not be at risk during disposal activities and once healthcare waste is dumped, no human or animal will be able to be in contact with it.
As a general rule, the following options may be implemented during implementation of the Project, but should be considered transitional, interim solutions:

**Pathological waste disposal:** Placenta pits can be effective in low-resource settings. They need to be located at specific sites to avoid contamination of groundwater, locked and fenced for security. Natural degradation and draining of liquid into the subsoil greatly reduces the volume of waste in the pit and facilitates the inactivation of pathogens. Pathological waste may be disposed of at a landfill when no other treatment options are available. However, disposal should be in a pre-specified area to prevent recyclers or scavengers coming into contact with the waste. Waste should also be covered as quickly as possible.

**Disposal of hazardous ash:** Fly ash and bottom ash from incineration is generally considered to be hazardous, because of the possibility of heavy metal content and dioxins and furans. It should preferably be disposed in sites designed for hazardous wastes, e.g. designated cells at engineered landfills, encapsulated and placed in specialized mono fill sites, or disposed in the ground in an ash pit.

**Sharp waste disposal:** Even after decontamination, sharp waste may still pose physical risks. There may also be risk of reuse. Decontaminated sharp waste can be disposed of in safe sharp pits on the health-care facility premises or encapsulated by mixing waste with immobilizing material like cement before disposal. These procedures are only recommended in cases where the waste is handled manually and the landfill for general waste is not secured.

**Infectious and hazardous waste:** Disposing of infectious/hazardous wastes without prior treatment into a general non-hazardous landfill greatly increases the risks to human health and the environment. If the waste is not properly covered, or disturbed by any means, further risks will arise. It is therefore poor practice to dispose of hazardous waste directly into a non-engineered landfill and should only be considered as a last resort when no other options are available.

### 3.4.3 Wastewater and Faecal Waste Disposal

There is no evidence to date that the COVID-19 virus has been transmitted via sewerage systems with or without wastewater treatment. However, as viral fragments have been found in excreta and because of other potential infectious disease risks from excreta, wastewater should be treated in well-designed and well-managed centralized wastewater treatment works. Health facilities shall ensure the provision of safe water, sanitation, and hygienic conditions, which is essential to protecting human health during all infectious disease outbreaks, including the COVID-19 outbreak. The health-care facilities should ensure that wastewater effluent complies with all applicable permits and standards, and the municipal wastewater treatment plant (WWTP) is capable of handling the type of effluent discharged.

### 3.5 Relevant International Disposal Issues

The Basel Convention for trans-boundary movement and disposal of hazardous substances and waste is primarily designed to avoid the dumping of hazardous materials on countries without adequate hazardous waste infrastructure. Therefore, the provisions of this instrument do not apply if the transport and disposal of hazardous waste remains within PNG.

The 1995 Waigani Convention is a treaty that bans the exporting of hazardous or radioactive waste to Pacific Islands Forum countries, and prohibits Forum island countries from importing such waste. The
provisions of this instrument do not apply to the Project if the transport and disposal of hazardous or radioactive waste remains within PNG.

4 Emergency Preparedness and Response

Emergency incidents occurring in a health-care facility may include spillage, occupational exposure to infectious materials or radiation, accidental releases of infectious or hazardous substances to the environment, medical equipment failure, failure of solid waste and wastewater treatment facilities, power outages, and fire. These emergency events are likely to seriously affect medical workers, communities, the HCF’s operation and the environment. Thus, an Emergency Response Plan (ERP) that is commensurate with the risk levels is recommended to be developed for the Project funded health-care facilities.

As defined in WB ESS 4 Community Health and Safety (para. 21) an ERP will include, as appropriate: (a) engineering controls (such as containment, automatic alarms, and shutoff systems) proportionate to the nature and scale of the hazard; (b) identification of and secure access to emergency equipment available on-site and nearby; (c) notification procedures for designated emergency responders; (d) diverse media channels for notification of the affected community and other stakeholders; (e) a training program for emergency responders including drills at regular intervals; (f) public evacuation procedures; (g) designated coordinator for ERP implementation; and (h) measures for restoration and cleanup of the environment following any major accident.

5 Implementation Arrangements and Capacity Building

5.1 Implementation Arrangements

National Department of Health

The National Department of Health (NDOH) has overall responsibility for medical waste management including the formulation of laws and policies; and the collection, treatment, and disposal of medical wastes. The NDOH will have the overall responsibility for ensuring that environmental and social issues are adequately addressed within the Project.

NDOH Project Coordination Unit (PCU)

The PCU embedded in the NDOH will manage the day-to-day implementation of the Project. The ESHS&CE Specialist, supported by the international ESHS Specialist, will oversee the implementation of and compliance with the ICP&WMP in accordance with the World Bank ESF.

Health-Care Facilities

At the health-care facility level, the head of the health-care facility will have overall responsibility for infection prevention control (IPC) and waste management. During project implementation, the head of the health-care facility should assess the following:

- whether adequate and qualified staff are in place, including those in charge of infection control and waste management;
- whether additional staff are required: if so, how many, and with what qualifications and training;
• how relevant departments in the healthcare facility will work together to create an intra-departmental team to manage, coordinate and regularly review the issues and performance of the facility.

The head of a health-care facility should formally appoint a person or team to be responsible for implementing the procedures and mitigation measures that have been adopted to avoid or minimize the spread of COVID-19. This would be the person/team with overall responsibility for infection prevention control and waste management and would ensure that IPC and health care waste management activities are carried out in accordance with the IPC&WMP. This person/team would also manage, coordinate and regularly review the performance of the facility in terms of how the waste streams in the health-care facilities are separated, tracked and recorded, and oversee the procedures for the safe transportation of potentially infected samples to testing facilities.

To be effective, waste management activities must be implemented within the framework of the facility IPC program, and not as a standalone intervention. Therefore, the officer or team should ideally be part of the infection prevention and control or WASH team of the health facility. Currently, some health care facilities have a dedicated person who champions IPC for the TB units who could also be identified for IPC oversight for this Project. This will be decided during project implementation.

5.2 Capacity Building

The Project will invest in training of medical, laboratory and waste management personnel financed under sub-component 1.3 to ensure compliance with the IPC&WMP, WHO guidance, and GIIP. A training plan with recurring training programs should be developed. The following aspects are recommended:

• Define roles and responsibilities along each link of the chain along the cradle-to-crave infection control and waste management process;
• Ensure adequate and qualified staff are in place, including those in charge of infection control and biosafety and waste management facility operation;
• Stress the head of a health-care facility takes overall responsibility for infection control and waste management;
• Involve all relevant departments in a health-care facility, and build an intra-departmental team to manage, coordinate and regularly review issues and performance;
• Establish an information management system to track and record the waste streams in HCF;
• Capacity building and training should involve medical workers, waste management workers and cleaners. Third-party waste management service providers should be provided with relevant training as well; and
• Consider the use of visual aids in communication materials to overcome language and literacy barriers.

6 Monitoring and Reporting

The health-care facility should establish an information management system to track and record the waste streams from the point of generation, segregation, packaging, temporary storage, transport carts/vehicles, to treatment facilities. The health-care facility is encouraged to develop an IT based information management system should their technical and financial capacity allow.
As discussed above, the health-care facility head takes overall responsibility, leads an intra-departmental team and regularly reviews issues and performance of the infection control and waste management practices in the health-care facility. Internal reporting and filing systems should be in place and submitted to the PCU for review on request.

The Safeguards Specialist/s in the PCU will prepare six-monthly monitoring reports on the environmental, social, health and safety (ESHS) performance of the Project to submit to the World Bank per government and World Bank requirements.
Annex 1 - WHO hand cleaning and hand rub posters

1a – Hand Washing with Soap and Water
1b - Hand Hygiene with Alcohol-based Hand Rub (AHR)

1. Apply AHR on palms
2. Rub palms to palms
3. Rub the back of both hands interlacing the fingers
4. Rub palm to palm interlacing the fingers
5. Rub the backs of fingers by interlocking the hands
6. Rub the thumbs
7. Rub palms with fingertips
8. Once dried, your hands are safe

Duration: 20-30 seconds
Annex 2 - Correct steps for donning (putting on) and doffing (safe removal) of PPE for health care settings.

HCWs must select the appropriate PPE after having assessed the risk of contact with body fluid.

The following is not a sequence of PPE. It is procedure for each PPE item.

It is when the HCW remove the PPE that he/she may contaminate himself/ herself. Therefore wear PPE in a logical order, to be able to take off from the most contaminated item (higher risk) to the less contaminated item (lower risk).

Any PPE procedure must start by performing hand hygiene first. When removing PPE, the last step is to thoroughly perform hand hygiene.

1. Gloves

Put On

1. Carefully put on disposable gloves (to avoid breaking the gloves)

When wearing long sleeves gown, gloves cover the wrist of the gown

Take Off

! Outside part of gloves is contaminated!

1. Grasp outside of glove with opposite gloved hand; peel off

2. Hold removed glove in gloved hand or discharge in waste container

3. Slide fingers of un-gloved hand under remaining glove at wrist

4. Peel glove off

5. Discard gloves in waste container
2. Gown

**Put On**

1. Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back

2. Fasten in back of neck and waist

**Take Off**

1. Unfasten ties

2. Gown front and sleeves are contaminated!

3. Pull away from neck and shoulders, touching inside of gown (only if not wearing gloves)

4. Turn gown inside out

5. Fold or roll into a bundle and discard

Note: Reusable gown should be clean/ disinfected before being reuse
3. Surgical Mask

**Put On**

1. Secure ties or elastic bands at middle of head and neck
2. Fit flexible band to nose bridge
3. Fit snug to face and below chin

**Take Off**

! DO NOT TOUCH with hands the front of mask, it is contaminated!

1. Grasp ties or elastics and take off
2. Discard in waste container
4. Eyes protection (safety glasses, goggles or face shield)

4.1 Procedure for goggle or face shield

Put On

Goggle face shield

Take Off

Put On

Place goggle or face-shield over eyes and face, and adjust to fit

Take Off

! DO NOT TOUCH, with hands front of the eyes protection, it is contaminated!

1. Take off, by handling the head band, elastics
2. Place in designated receptacle for reprocessing or in waste container for single use (e.g. face shield).

4.2 Procedure for safety glasses

Put On

Place item over face and eyes and adjust to fit

Take Off

Take Off

! DO NOT TOUCH with hands front of the eyes protection, it is contaminated!

To take off, handle by ear pieces

Place in designated receptacle for reprocessing or in waste container for single use (e.g. face shield).
Annex 3 – The 5 moments for hand hygiene

Recommendation

Routine Hand Hygiene

Hand hygiene must be performed before and after every episode of patient contact.

- Before touching a patient
- Before a procedure
- After a procedure or body substance exposure risk
- After touching a patient
- After touching patient’s surroundings

Note: Hand hygiene MUST also be performed after taking off PPE.
References


ii ibid


vi PHE poster PPE TBC


viii ibid


xiv https://www.who.int/infectionprevention/publications/decontamination/en/


Water, sanitation, hygiene, and waste management for the COVID-19 virus Interim guidance 23 April 2020

Safe management of wastes from health-care activities. Geneva; World Health Organisation; 2014.
https://apps.who.int/iris/bitstream/handle/10665/42175/9241545259.pdf?sequence=1


Annex V. Labour Management Procedure (LMP)

Abbreviations and Acronyms

CERC  Contingent Emergency Response Component
DPM   Department of Personnel Management, Papua New Guinea
ESCP  Environmental and Social Commitment Plan
ESHS  Environmental, Social, Health and Safety
ESMF  Environmental and Social Management Framework
ESS   Environmental and Social Standards
ETP   Emergency Tuberculosis Project
GoPNG Government of Papua New Guinea
ILO   International Labour Organization
LMP   Labour Management Procedure
NDOH  National Department of Health, Papua New Guinea
OHS   Occupational Health and Safety
PCU   Project Coordination Unit
PNG   Papua New Guinea
PPE   Personal protective equipment
UNICEF United Nations Children's Fund
UNOPS United Nations Operation for Project Services
WB    World Bank
WHO   World Health Organisation
1. Introduction
The PNG Covid-19 Emergency Response Project will assist the Government of Papua New Guinea (GoPNG) in its efforts to prevent, detect and respond to the threat posed by COVID-19 and strengthen national systems for public health preparedness. The Project will finance critical activities outlined in the PNG COVID-19 National Emergency Response Plan. The Project will initially be implemented in ten provinces including the National Capital District.

These Labour Management Procedures (LMP) for PCU and contracted workers are to ensure proper working conditions and management of worker relationships, occupational health and safety, and to prevent sexual exploitation and abuse and sexual harassment.

1.1 Project Management Overview
The National Department of Health (NDOH) will be responsible for implementation of the Project, including overall coordination, results monitoring and communicating with the World Bank on the implementation of the Project. A Project Steering Committee will be established to review progress of the Project, ensure coordinated efforts by all stakeholders and to conduct annual reviews of the Project. The multisectoral aspects of the COVID-19 response will be guided by the National Intersectoral Coordination Taskforce. The Secretary of the NDOH will be the Project Director and provide oversight and support coordination of Project implementation among the relevant divisions and departments of NDOH and Provincial Health Authorities.

The existing Project Coordination Unit (PCU) for the Emergency Tuberculosis Project (ETP, P160947) will support the NDOH with managing day-to-day implementation of the Project and provide linkage between NDOH and WB. In addition to the existing ETP PCU Project Coordinator and Procurement Specialist, the ETP PCU will be expanded to include a Financial Management Specialist, Monitoring & Evaluation Specialist and Environmental and Social Specialists who will support the Project on environmental, social, health and safety and community engagement.

The PCU will contract United Nations Operation for Project Services (UNOPS) and UNICEF to support Project activities. UNOPS will be engaged to procure and provide medical equipment, consumables and other laboratory and medical supplies. UNICEF will be engaged to assist with risk communication and community engagement.

2. Labour Use on the Project
2.1 Categorization of the Workforce
ESS2 categorizes Project workers into four different categories:
1. Direct workers: People employed or engaged directly to work specifically in relation to the Project.
2. Contracted workers: People employed or engaged by third party contractors to perform work related to core function of the Project, regardless of location.
3. Primary supply workers: People employed or engaged by the primary suppliers. (This category of workers is not expected to be engaged on the Covid-19 Emergency Response Project and is not discussed in the LMP.)
4. Community workers: People employed or engaged in providing community labour. (This category of workers is not expected to be engaged on the Covid-19 Emergency Response Project and is not discussed in this LMP.)

2.1.1 Direct Workers

Two types of direct workers will be employed by the Project: **direct workers – Government** and **direct workers - other**.

**Direct workers – Government** are civil servants employed by the NDOH and Provincial Health Authorities who will be involved in project implementation. They will remain subject to the terms and conditions of their existing public sector employment agreement. NDOH and Provincial Health Authority staff are based in Port Moresby as well as the ten provinces covered by the Project. The NDOH and the Department of Personnel Management (DPM) collaboratively manage the public sector health workers. The DPM was established as a central government agency under the Public Service Management Act 1995 and has primary responsibility for public sector management including human resources issues. Since its inception, the DPM has controlled most staff management practices in the health sector including recruitment and selection, discipline and performance management. It currently operates under the *Public Services (Management) Act 2014*. The number of (national and provincial) government staff involved in Project implementation is not known yet. Direct workers – Government will be required to the measures adopted by the project for addressing occupational health and safety issues (ESS2 paragraphs 24 to 30) including those specifically related to COVID-19, as well as measures to protect the workforce in terms of child labour and forced labour (ESS 2 paragraphs 17 to 20).

Health care workers working in facilities that benefit from project activities (such as training, equipment etc) are considered project beneficiaries rather than direct workers - Government. As such they are outside the scope of this LMP.

**Direct workers - other** are those employed as full and part-time consultants by the PCU under the Project.

The PCU currently consists of a Project Coordinator and Procurement Specialist. The Project will increase the PCU staffing to include a Financial Management Specialist, a Monitoring & Evaluation Specialist, and two Environmental and Social Specialists (a part-time International Environmental, Social and Health and Safety Specialist and a full-time Local Environmental, Social and Health and Safety and Community Engagement Specialist) who will be recruited for the PCU and maintained throughout Project implementation. All PCU staff are based in Port Moresby.

The total number of PCU employees, dedicated to this Project, is estimated to be six persons. Direct PCU staff will be required full time and around the year for the Project duration. Other experts/consultants will be hired on demand basis throughout the Project period.
2.1.2 Contracted workers

Contracted workers will be employed as required by UNICEF and UNOPS, sub-contractors and any other intermediaries. Contracted labour requirements are likely to be known when Project implementation commences. UNICEF will support Project activities by delivering diagnostic and social behavioural change communications training (including related logistics), and some goods (such as PPE). This will include community engagement activities. In addition, institutional capacity strengthening of NDOH and Provincial Health Authorities may be required through the hiring of consultants to perform specialized tasks. According to the ESCP, part time consultants may be hired and retained on an as-required basis. UNOPS will be engaged to procure and provide medical equipment, consumables and other laboratory and medical supplies.

UNICEF and UNOPS are required to implement the LMP. It will be the contractors’ responsibility to ensure that potential subcontractors adhere to the LMP.

Timing for involvement of contracted workers will be known at later stages. They will be engaged to support the implementation of various sub-components on specific time slots.

2.1.3 Migrant workers

Migrant workers expected to work on the Project include international consultants. They will require a work permit issued by the Foreign Employment Division of the Department of Labour and Industrial Relations in accordance with the Employment of Non-Citizens Act 2007 and the Employment of Non-Citizens Regulation 2008. Non-citizens can also be engaged as technical advisors by Government agency secretaries such as the Secretary of Health under the Public Employment (Engagement of Non-Citizen Technical Advisers) Regulation 2015 and the Public Employment (Non-Citizens) Act 1978.

In the case of direct or contracted workers who are mobilised from abroad or from other parts within PNG, the following procedures will be implemented to mitigate transmission of COVID-19: workers arriving from abroad will self-isolate in a hotel for 14 days and their temperature will be checked before being allowed to work. Workers arriving from other parts of PNG will have their temperature checked before being allowed to work.

2.2 Project Labour Requirements

Project labour requirements are shown in Table 1 below.
### Table 1 - Number, Characteristics and Timing of Workforce

<table>
<thead>
<tr>
<th>Project Component</th>
<th>Estimated Number of Project Workers</th>
<th>Characteristics of Project Workers</th>
<th>Timing of Labour Requirements</th>
<th>Contracted Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Case detection and management: establishing, upgrading and equipping laboratory, isolation and treatment centres</td>
<td>TBC (June 2020)</td>
<td>Contractor – UNICEF or UNOPS</td>
<td>Construction</td>
<td>Contracted worker – employed by Contractor in charge of minor civil works for establishing and upgrading laboratories and isolation and treatment centres.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Likely national workers who may come from Port Moresby or other population centres. As far as possible, workers should be hired locally to (I) avoid labour influx from other provinces, (ii) mitigate risks to host communities, (iv) maintain support of local population, and (iv) reduce the need to set up labour camps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Medical supplies and equipment: procurement of medical supplies and equipment needed for activities outlined in the COVID-19 Master Plan</td>
<td>Unknown at this stage</td>
<td>National workers in storage and distribution of medical supplies and equipment. May be hired directly or contracted by company providing the medical equipment. National workers for goods procured in-country, or workers in-country who procure goods internationally.</td>
<td>Construction, potentially Operations</td>
<td>Contracted workers in businesses supplying or transporting medical supplies and equipment Contracted workers in factories manufacturing medical supplies and equipment purchased</td>
</tr>
<tr>
<td>3. Preparedness, Capacity Building and Training:</td>
<td>TBC (June 2020)</td>
<td>Workers at NDOH in Port Moresby and provincial and health authorities(^2)</td>
<td>Throughout the Project cycle</td>
<td>Direct workers including civil servants at NDOH in Port Moresby and in</td>
</tr>
</tbody>
</table>

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\(^2\) Health workers (doctors, nurses, pharmacists, lab technicians, cleaners, etc.) working in referral hospitals, laboratories and isolation and treatment centres are considered Project beneficiaries and are not included in the Project labour force. Similarly, law enforcement officials or other authorities responsible for conducting checks,
<table>
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</tr>
</thead>
</table>
| includes coordination, human resources, support for screening, hotline, supporting, communication materials and outreach, community surveillance | Workers contracted by PCU to work on grievance redress, communication materials and managing hotline numbers and/or websites. | | | provincial health authorities  
Contracted workers employed by PCU |
| TBC (June 2020) | National and international skilled consultants to provide training | | | Consultancy contracts are likely to be tendered to individual consultants. |
| TBC (June 2020) | Civil society, NGO or consultant staff may be contracted/ sub-contracted directly by NDOH to deliver training activities or communications and outreach materials on COVID-19, GBV, mental health, or to conduct additional assessments | Operations | | Direct workers – including civil servants at NDOH  
Contracted workers -- NGO or consultants |
| 4. Project Implementation and Monitoring: including procurement, safeguards, monitoring, costs for consultants, etc. | Civil servants at NDOH implementing Project. | Throughout the whole Project cycle | | Direct workers - civil servants |
| TBC (June 2020) | Consultants hired to support environmental and social standards implementation, monitoring. | | | Consultancy contracts are likely to be tendered to individual consultants. |

3. Potential Labour Risks
The PCU will demonstrate high standards of human resource management and adhere to PNG’s national labour and OSH legislation and international instruments including International Labour Office conventions ratified by PNG. On 2 April 2020, PNG’s Parliament extended the country’s state of screening for entry into the country, monitoring compliance with movement restrictions etc. are considered Project beneficiaries.
emergency for two months. The possibility that the country’s labour and OHS laws be amended to comply with the state of emergency has to be considered.

The most significant risks to worker health, safety and well-being are summarized in Table 2 below.

**Table 2 - Key Labour Risks**

<table>
<thead>
<tr>
<th>Project Activity</th>
<th>Key Labour Risks</th>
</tr>
</thead>
</table>
| General project administration and implementation (hiring of consultants, monitoring and reporting, financial management, audits, E&S management, project coordination, conducting behaviour and communication campaigns, conducting trainings, M&E) | Risk of road accidents in travel to provinces (OHS)  
Exposure to people who could have COVID-19 Project workers at risk of psychological distress, fatigue and stigma due to the nature of their work. |
| Minor civil works and/or construction works to upgrade hospitals and other medical facilities, including isolation units and labs, including supplying with medical equipment. | Terms of employment (employment period, remuneration, tax and insurance payments etc.) are not secured by contractual agreements.  
Workers suffer discrimination and lack of equal opportunity in employment.  
Use of child labour contravenes national legislation and international conventions ratified by PNG  
Project workers at risk of psychological distress, fatigue and stigma due to the nature of their work.  
Risks of workplace accidents, particularly when operating construction equipment, when working at height on building construction, and when handling heavy equipment and materials  
Risks from exposure to hazardous substances (dust, cement, chemicals used in construction etc.)  
Accidents or emergencies (OHS)  
Sexual Exploitation and Abuse (SEA), GBV and VAC to workers and community |
| Transportation of medical supplies, equipment                                      | Road traffic accidents expose workers and local communities to hazardous materials (OHS)  
Risk of road accidents in travel to provinces (OHS)  
Risks of accidents when handling heavy equipment  
Infected transportation staff transmit COVID-19 to local populations |
<p>| Transportation of medical waste                                                   | Road traffic accidents expose workers and local communities to hazardous materials (OHS) |</p>
<table>
<thead>
<tr>
<th>Project Activity</th>
<th>Key Labour Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of road accidents in travel to provinces (OHS)</td>
<td></td>
</tr>
<tr>
<td>Risks from exposure to hazardous substances (medical waste, contaminated waste)</td>
<td></td>
</tr>
<tr>
<td>Infected transportation staff transmit COVID-19 to local populations</td>
<td></td>
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<tr>
<td>Terms of employment (employment period, remuneration, tax and insurance payments etc.) are not secured by contractual agreements.</td>
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</tr>
<tr>
<td>Project workers at risk of psychological distress, fatigue and stigma due to the nature of their work.</td>
<td></td>
</tr>
<tr>
<td>Risks from exposure to hazardous substances (medical waste, contaminated waste)</td>
<td></td>
</tr>
<tr>
<td>Risks from exposure with patients or their bodily fluids/waste, that have contracted COVID-19</td>
<td></td>
</tr>
<tr>
<td>SEA, GBV and VAC to workers and community</td>
<td></td>
</tr>
<tr>
<td>Risks from exposure with people that may be positive for COVID-19</td>
<td></td>
</tr>
<tr>
<td>People entering the country suffer abuse of power, discrimination, stigma during screening process</td>
<td></td>
</tr>
<tr>
<td>Risks from exposure with people that may be positive for COVID-19</td>
<td></td>
</tr>
<tr>
<td>Community members suffer abuse of power, discrimination, stigma during screening process</td>
<td></td>
</tr>
</tbody>
</table>

4. Brief Overview of Labour Legislation: Terms and Conditions

4.1 Employment and Working Conditions Legislation

PNG’s main labour legislation is the Employment Act 1978 and associated Employment Regulation 1980 that govern relations between employers and workers. The Employment Act is currently under review. PNG also supports several international treaties with labour related provisions. Most importantly, as a member of the ILO, PNG has ratified several ILO Conventions including the eight Fundamental Conventions and 16 other Conventions. Employment of non-citizens is regulated by the Employment of Non-Citizens Act 2007.
The majority of health workers on the Project are public servants who, according to ESS2, remain subject to the terms and conditions of their existing public sector employment agreement or arrangement, unless there has been an effective legal transfer of their employment or engagement to the Project which is not foreseen under this Project. As such, ESS2 will not apply to such government civil servants which have been classified as government direct workers, except for the provisions on protecting the workforce regarding child labour, minimum age and forced labour, and provisions on occupational safety and health.

It is important to note that during emergency situations such as the COVID-19 emergency, national laws, including labour laws, can be temporarily amended by Governments. The PCU and contractors are responsible for keeping up to date with the legislative situation and to adapt workplace practices accordingly.

4.1.1 Wages and deductions

The Employment Act stipulates that the wages payable to an employee shall not be less than those provided for by registered awards relevant to the employee, and the minimum rates of remuneration for piece-rate work shall not be less than those provided for by registered awards relevant to that work.

Casual employees shall be paid a day’s wages at the completion of each day’s employment, while piece-rate employees shall be paid wages in proportion to the amount of work performed, either at intervals of no longer than two weeks, or on completion of the piece-rate work, whichever is the earlier. Other employees shall be paid at intervals of no longer than two weeks; or by agreement between the employer and employee, of no longer than one month.

The total amount of deductions from wages may not exceed 50% of the employee’s wages. Wage deductions can be made only for cases specified by legislation or with the written consent of the employee. Only the following deductions are permissible:

- Contributions to a provident, medical or pension fund or to any scheme approved by the Secretary.
- Food rations, clothing and other articles in accordance with registered awards.
- Any amount paid to the employee in error as wages in excess of the amount of wages due to him.
- Subject to any direction by the Secretary— an amount or part of an amount of any shortage of money due to the negligence of the employee where his contract of service provides specifically for his being employed in connection with the receipt, payment and custody of money.
- In the case of an employee employed under an attested contract, deferred wages.
- Rental for housing provided.
- Cost of repatriation where the employee is not a citizen.
- Any other prescribed items.
- Any advance paid to the employee.

4.1.2 Working hours
The standard work week is 44 hours over six workdays (eight hours per weekday and four hours on Saturday). The maximum hours of work are 12 hours in one day. Persons under 16 years of age shall not be employed between the hours of 6 p.m. and 6 a.m., and persons of 16 or 17 years of age shall not be employed between these hours, except in an undertaking in which only members of their family are employed. Women must also not be employed between the hours of 6 p.m. and 6 a.m. in any industrial undertaking unless under special circumstances which include women being employed in health or welfare services.

4.1.3 Overtime work

There is no prohibition on excessive or compulsory overtime. Overtime work will be paid at rates between the hourly rate and twice the hourly rate. Specifically, overtime worked on a Sunday shall be paid at twice the hourly rate; on a public holiday at the hourly rate; and at any time, other than a Sunday or a public holiday, at one-and-a-half times the hourly rate.

4.1.4 Rest breaks

Employees must be granted a rest and meal break during the workday. Employees who work eight hours or more in any day shall be allowed one or more meal or rest periods totalling in the aggregate not less than 50 minutes. For every five hours of work, they are entitled to a 40 minutes meal or rest period. Workers are entitled to a weekly rest period of 24 consecutive hours. The maximum permissible work hours may be exceeded in certain circumstances such as accidents and emergency situations and when employees care for the sick.

4.1.5 Leave

Employees are entitled to ten working days of paid recreational leave for each year of continuous service, equivalent to 14 consecutive days paid leave including non-working days. Furthermore, after six months of employment, employees are entitled to paid sick leave at the rate of six days per year. Pregnant women are entitled to unpaid maternity leave for a period consisting of the number of days necessary for hospitalization prior to giving birth and six weeks following confinement.

4.1.6 Non-discrimination and equal opportunity

The Constitution of PNG guarantees all citizens the same rights, privileges, obligations and duties irrespective of race, tribe, place of origin, political opinion, colour, creed, religion or sex. PNG’s Employment Act only prohibits discrimination of women on account of their sex and requires employers to pay women and men that same wages for the same work.

PNG ratified ILO’s Discrimination (Employment and Occupation) Convention, 1958 (No. 111) by which PNG undertakes to promote equality of opportunity and treatment in respect of employment and occupation, with a view to eliminating any discrimination on the basis of race, colour, sex, religion, political opinion, national extraction or social origin.

4.1.7 Freedom of association and collective bargaining

While the Employment Act does not include provisions on freedom of association, collective bargaining and the rights of workers to join unions, the right to organize is guaranteed by the Constitution (Article 47). The Industrial Relations Act 1962 aims at improving industrial relations and preventing and settling
4.1.8 Grievance mechanism

While the Employment Act does not include provisions on the resolution of labour disputes or the introduction of grievance mechanisms in workplaces, the settlement of industrial disputes is regulated by the Industrial Relations Act 1962. With no stipulations regarding the introduction of grievance mechanisms in workplaces in PNG’s national legislation, employers of Project workers are required to develop and provide a grievance mechanism for all direct workers and contracted workers to raise workplace concerns, as per the ESS2. Workers will be informed of the grievance mechanism at the time of recruitment (see Section 7 below).

4.2 Occupational Health and Safety Legislation

The main legal framework for Occupational Health and safety (OSH) is the Industrial Safety, Health and Welfare Act of 1961 and other industry specific regulations (such as for the mining sector). The Industrial Safety, Health and Welfare Act of 1961 is generally no longer responsive to a modern labour market. Although the Government prioritized the development of new OSH legislation some years ago, new legislation has not been adopted. The legislation is applicable to factories where manufacturing processes or power generation take place, or buildings or places which are declared factories by the Minister for the purposes of this Act. Hence, the Act regulates issues such as minimum requirements of floor space, ventilation, natural lighting, providing a room for eating, rest rooms, sanitary facilities, a first aid kit and first aid personnel. It also requires employers to notify of disease or injury as a result of employment and it includes specific provisions for dangerous work.

According to the Act, an Industrial Safety Officer may, at all reasonable times and with or without notice to any person, enter any premises or place at which he has reasonable grounds for suspecting that an employee is, or has recently been, employed. Employees can request a workplace inspection if they believe conditions are hazardous. Overall, the PNG Government has a weak influence on occupational health and safety regulations and few inspections take place.

PNG has not ratified the ILO Conventions dealing with occupational health and safety (ILO Occupational Safety and Health Convention, 1981 (No. 155) and the ILO Safety and Health in Construction Convention, 1988 (No.167)), nor the ILO Occupational Health Services Convention (No. 161).

With the health sector being outside the scope of PNG’s Industrial Safety, Health and Welfare Act of 1961, the OHS measures of the Project will include the requirements of the relevant sections of ESS2. Guidance will also be sought from the ILO Conventions, if applicable.

In addition to general OHS measures, COVID-19 related measures will be followed according to relevant WHO guidelines as well as national guidelines. National guidelines are outlined in the National Department of Health’s Papua New Guinea Emergency Preparedness and Response Plan Coronavirus Disease 2019 which is a live document. Important general WHO guidelines include the WHO International Health Regulations and the WHO Emergency Response Framework. Project workplaces will be made ready for COVID-19 by following the WHO guidance Getting your workplace ready for COVID-
19. Specific WHO guidelines addressing the situation in health care settings include WHO COVID-19 interim guidance regarding health workers’ rights, roles and responsibilities, the WHO IPC interim guidance for guidance on infection prevention and control (IPC) strategies for use when COVID-19 is suspected, the WHO interim guidance on use of PPE for COVID-19 for rational use of PPE, and the WHO interim guidance for guidance on water, sanitation and health care waste relevant to viruses.

Detailed measures will be introduced for all direct and contracted Project workers.

5. Roles and Responsibilities

5.1 National Department of Health

The NDOH will have overall responsibility for the Project. The PCU will manage day-to-day implementation of the Project, under NDOH supervision and reporting to responsible staff within NDOH appointed by the minister. This will include engagement and management of direct workers in accordance with the LMP and monitoring contractors’ (mostly UNOPS and UNICEF) compliance with the LMP.

The Project Coordinator with the support of the PCU’s Environmental & Social Specialists will be responsible for the following within their responsibility area:

- Implementing this LMP;
- Ensuring that contractors comply with this LMP;
- Monitoring to verify that contractors are meeting labour and OHS obligations toward contracted workers as required by PNG’s legislation and ESS2;
- Monitoring contractors implementation of this LMP;
- Monitoring compliance with occupational health and safety standards at all workplaces in line with the national occupational health and safety legislation;
- Monitoring compliance with COVID-19 related health and safety measures including making workplaces ready for COVID-19;
- Monitoring and implementing training on LMP, OHS and mitigating the spread of COVID-19 for Project workers as per the ESMF;
- Ensuring that all direct workers – other are provided with health insurance that covers treatment for COVID-19 infections;
- Ensuring that the grievance redress mechanism for Project workers is established and implemented and that workers are informed of its purpose and how to use it.
- Have a system for regular monitoring and reporting on labour and occupational safety and health performance; and Data collection, monitoring, and analysis of the LMP as part of the Project’s M&E activity.

Monitoring reports will be reviewed and submitted regularly to Manager of the PCU and Project Steering Committee, who will submit with other monitoring reports to the World Bank.

5.2 Contractors

The Contractor is responsible for management of their workers or subcontracted workers in accordance with this LMP, which will be supervised by NDOH.
Contractors will be responsible for the following:

- To obey requirements of the national legislation (including emergency regulations) and this LMP;
- Maintain records of recruitment and employment process of contracted workers;
- Communicate clearly job description and employment conditions to contracted workers;
- Provide workers with evidence of all payments made, including benefits and any valid deductions;
- Providing all contracted workers with health insurance that covers treatment for COVID-19 infections;
- Maintain records regarding labour conditions and workers engaged under the Project, including contracts, registry of induction of workers including Code of Conduct, hours worked, remuneration and deductions (including overtime).
- Assigning a designated safety officer, conducting training on and implementing OHS measures and measures to mitigate the spread of COVID-19, recording safety incidents and corresponding Root Cause Analysis (lost time incidents, medical treatment cases), first aid cases, high potential near misses, and remedial and preventive activities required (for example, revised job safety analysis, new or different equipment, skills training, etc.) in accordance with the project’s ESMF
- Ensure no child or forced labour is involved in the Project.
- Maintain records of training/induction dates, number of trainees, and topics.
- Implement the grievance redress mechanism for workers, maintaining records of any worker grievances including occurrence date, grievance, and date submitted; actions taken and dates; resolution (if any) and date; and follow-up outstanding.
- Have a system for regular review and reporting on labour, and occupational safety and health performance.

This LMP can be updated to include additional details about the hired workforce of contractors including UNOPS and UNICEF, as necessary.

6. Project Labour Policies and Procedures
6.1 Terms and Conditions of Employment

Terms and conditions of direct workers are determined by their individual contracts. Permanent Project staff will have individual agreements (labour contract or service contract) with fixed monthly wage rates. All the recruiting procedures should be documented and filed in the folders in accordance to the requirements of PNG’s labour legislation and the ESS2. Forty hour per week employment should be practiced. Requirements and conditions of overtime and leave entitlements are agreed as part of individual contracts.

The PCU will ensure that contractors are aware of and comply with the labour management and OSH policies and procedures outlined in this LMP. Each contractor will be required to submit an assessment of environmental and social risks (including labour risks) associated with their activities and risk mitigation measures in accordance with the Project’s environmental and social requirements.

The Project’s labour requirements are outlined in the sections below.
6.2 Age of Employment

PNG has ratified both the ILO Minimum of Age Convention (C138) and the ILO Worst Forms of Child Labour Convention (C182). According to PNG’s Employment Act 1978, the minimum age of employment is 16 years of age. Children between the ages 11 and 16 may be employed in a family business or enterprise provided they have parental permission, medical clearance, and a work permit from a labour office. Persons under the age of 16 may not be employed in any employment or in any place or under working conditions that are injurious or likely to be injurious to the health of the person. The minimum age of employment for this Project shall be 18 years due to the hazardous working conditions. To ensure compliance, all employees will be required to produce a Tax Identification Number (TIN) as proof of their identity and age. Contractors and subcontractors will be required to receive approval for the specific procedures they will use to verify the ages of job applicants.

6.3 Occupational Health and Safety

The OHS measures of the Project are based on the requirements of the relevant sections of ESS2 as well as WHO guidelines. These will particularly address the key risks identified in Chapter 2 which include infection of Project workers with Covid-19 and of psychological distress, fatigue and stigma due to the nature of their work.

The PCU’s Environmental & Social Specialists will establish OSH guidelines for all Project workers, monitor and implement training on OHS for Project workers and establish a system for regular monitoring and reporting on OSH performance including documentation and reporting of occupational accidents, diseases and incidents.

The PCU will ensure effective methods are put in place for responding to identified hazards and risks, establishing priorities for taking action and evaluating outcomes. WHO’s guidance for health workers details both the rights of health workers and expectations of employers and managers in health facilities, as well as the responsibilities of health workers. These guidelines include preventive and protective measures (such as the use of PPE), emergency prevention and preparedness and response arrangements to emergency situations, and remedies for adverse impacts as requires under the ESS2.

The guidelines will require compliance with the following provisions:

- Ensure workplace health and safety standards in full compliance with PNG law, ESS2 and WHO Guidelines and include:
  - Basic safety awareness training to be provided to all persons as well as on COVID-19 prevention and related measures.
  - All Project vehicle drivers to have appropriate licenses.
  - Safe management of areas around operating equipment inside or outside hospitals/ laboratories/ treatment facilities/ isolation centres.
  - All workers to be equipped with all necessary PPE (particularly facemask, gowns, gloves, handwashing soap, and sanitizer) to protect from COVID-19.
  - Secure scaffolding and fixed ladders to be provided for work above ground level.
  - First aid equipment and facilities to be provided in accordance with labour legislation.
• At least one supervisory staff trained in safety procedures to be present at all times when construction work is in progress.
• Adequate provision of hygiene facilities (toilets, hand-washing basins) and resting areas etc.

• Comply with PNG legislation, WB’s ESS2 requirements and other applicable requirements which relate to OHS hazards, including WHO specific COVID-19 guidelines.

• All workplace health and safety incidents to be properly recorded in a register detailing the type of incident, injury, people affected, time/place and actions taken.

• All workers (irrespective of contracts being full-time, part-time, temporary or casual) to be covered by insurance against occupational hazards and COVID-19, including ability to access medical care and take paid leave if they need to self-isolate as a result of contracting COVID-19.

• All work sites to identify potential hazards and actions to be taken in case of emergency.

• Any on-site accommodation to be safe and hygienic, including provision of an adequate supply of potable water, washing facilities, sanitation, accommodation and cooking facilities.

• Workers residing at site accommodation to receive training in preventing prevention of infection through contaminated food and / or water, COVID-19 prevention and avoidance of sexually transmitted diseases.

• Laminated signs of relevant safe working procedures to be placed in a visible area on work sites, in Tok Pisin, Mutu and English, including on hand hygiene and cough etiquette, as well as on symptoms of COVID-19 and steps to take if suspect have contracted the virus.

• Fair and non-discriminatory employment practices.

• Under no circumstances will contractors, suppliers or sub-contractors engage forced labour.

• Construction materials should be procured only from suppliers able to certify that no forced labour or child labour (except as permitted by the Labour Law) has been used in production of the materials.

• All employees to be aware of their rights under the Labour Law, including the right to organize.

• All employees to be informed of their rights to submit a grievance through the Project Worker Grievance Mechanism. All employees to be provided training on appropriate behaviour with communities, gender-based violence and violence against children.

Project workers will receive OHS training at the start of their employment or engagement, and thereafter on a regular basis and when changes are made in the workplace, with records of the training kept on file. Training will cover the relevant aspects of OHS associated with daily work, including the ability to stop work without retaliation in situations of imminent danger (as set out in paragraph 27 of ESS2) and emergency arrangements.

All Project workers will also receive training on COVID-19 prevention, social distancing measures, hand hygiene, cough etiquette and relations with local community. Training programs will focus, as needed, on COVID-19 laboratory bio-safety, operation of quarantine and isolation centres and screening posts,
communication and public-awareness strategies for health workers and the general public on emergency situations, as well as compliance monitoring and reporting requirements, including on waste management, the Project’s labour-management procedures, stakeholder engagement and grievance mechanism.

All parties who employ or engage Project workers will actively collaborate and consult with Project workers in promoting understanding of, and methods for, implementation of OHS requirements, as well as in providing information to Project workers, training on occupational safety and health, and provision of personal protective equipment without expense to the Project workers.

6.3.1 Workers’ rights to refuse unsafe work environments

Workplace processes will be put in place for Project workers to report work situations that they believe are not safe or healthy. Project workers can remove themselves from a work situation which they have reasonable justification to believe presents an imminent and serious danger to their life or health. Project workers who remove themselves from such situations will not be required to return to work until necessary remedial action to correct the situation has been taken. Project workers will not be retaliated against or otherwise subject to reprisal or negative action for such reporting or removal.

6.3.2 Sexual Exploitation and Abuse and Sexual Harassment

Papua New Guinea ratified the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) in 1995. By ratifying CEDAW, PNG has made a commitment to ensure that the principles for equality are adhered to and that discriminatory practices including sexual exploitation and abuse and sexual harassment are abolished. Provisions to prevent sexual exploitation and abuse and sexual harassment will be included in the Code of Conduct for PCU’s staff (direct workers - other) and for contracted workers in line with relevant national laws and legislation.

The Government of Papua New Guinea’s Public Service Gender Equality and Social Inclusion Policy (GESI) 2013 promotes equity and inclusiveness in the public sector and encourages respectful relations at the workplace is used as a guidance for this project. It calls for the development of workplace gender violence plans which includes best practice responses from management, ways to respond to reports of workplace harassment, referral processes to support agencies, and appropriate discipline or legal actions against perpetrators. Direct workers – Government are already bound by Papua New Guinea’s GESI Policy.

7. Workers’ Grievance Management

NDOH and Provincial Health Authority staff working on the Project will have access to the grievance mechanisms established by the national and respective provincial public services. For direct workers – other and contracted workers, a Project specific Workers’ Grievance Redress Mechanism (WGRM) consistent with ESS2 will be established and maintained to raise workplace concerns.

Workers will be informed of the grievance mechanism at the time of recruitment. The WGRM will be easily accessible and measures will be put in place to protect workers against reprisal for its use. The WGRM can be used to raise workplace related concerns including about the terms of employment, rights at work, unsafe or unhealthy work situations and others. If the issue cannot be resolved at the workplace level within seven days, it will be escalated to the PCU level where one staff member will serve as Grievance Focal Point to file the grievances and appeals. The Grievance Focal Point will
coordinate with relevant departments/organizations and persons to address these grievances. The PCU will review the records on a monthly basis and report on the grievances, response time and resolution status in a quarterly report to the WB.

The WGRM will operate as follows:

1. The complainant may report their grievance in person, by phone, text message, mail or email (including anonymously if required) to the contractor as the initial focal point for information and raising grievances. For complaints that are satisfactorily resolved at this stage, the incident and resultant resolution will be logged and reported to the PCU Focal Point.

2. If the complainant is not satisfied, the contractor will refer the aggrieved party to the PCU Focal Point. The PCU Focal Point endeavours to address and resolve the complaint and inform the complainant in two weeks or less. For complaints that are satisfactorily resolved by the PCU Focal Point, the incident and resultant resolution will be logged by the PCU Focal Point. Where the complaint is not resolved, the PCU Focal Point will refer to the Project Manager for further action or resolution.

3. As a third step, if the matter remains unresolved, or the complainant is not satisfied with the outcome, the Project Manager will refer the matter to the Project Steering Committee for a resolution, which will aim to resolve the grievance in three weeks or less. The PCU Focal Point will log details of issue and resultant resolution status.

4. If the complaint remains unresolved or the complainant is dissatisfied with the outcome proposed by the Project Steering Committee, the complainant may refer the matter to the appropriate legal or judicial authority, at the complainant’s own expense. A decision of the Court will be final.

The grievance mechanism is not an alternative or substitute for the legal system for receiving and handling grievances and will not impede access to other judicial or administrative remedies that might be available under the law or through existing arbitration procedures. While all employees always have the right to access the legal system, the purpose of establishing a grievance mechanism is to provide an accessible and practical means to mediate and seek appropriate solutions, wherever possible.
Attachment A: WHO Guidance on OHS and Covid-19 Outbreak

Coronavirus disease (COVID-19) outbreak: rights, roles and responsibilities of health workers, including key considerations for occupational safety and health

Interim guidance
19 March 2020

Background
Health workers are at the front line of the COVID-19 outbreak response and as such are exposed to hazards that put them at risk of infection. Hazards include pathogen exposure, long working hours, psychological distress, fatigue, occupational burnout, stigma, and physical and psychological violence. This document highlights the rights and responsibilities of health workers, including the specific measures needed to protect occupational safety and health.

Health work rights, roles and responsibilities
Health worker rights include the expectation that employers and managers in health facilities:

- maintain appropriate working hours with breaks;
- consult with health workers on occupational safety and health aspects of their work, and notify the labour inspectorate of cases of occupational diseases;
- allow health workers to exercise the right to remove themselves from a work situation that they have reasonable justification to believe presents an imminent and serious danger to their life or health, and protect health workers exercising this right from any undue consequences;
- not require health workers to return to a work situation where there has been a serious danger to life or health until any necessary remedial action has been taken;
- honour the right to compensation, rehabilitation, and curative services for health workers infected with COVID-19 following exposure in the workplace – considered as an occupational disease arising from occupational exposure;
- provide access to mental health and counselling resources; and
- enable cooperation between management and health workers and their representatives.

Health workers should:

- follow established occupational safety and health procedures, avoid exposing others to health and safety risks, and participate in employer-provided occupational safety and health training;
- use provided protocols to assess, triage, and treat patients;
- treat patients with respect, compassion, and dignity;
- maintain patient confidentiality;
- swiftly follow established public health reporting procedures of suspected and confirmed cases;
- provide or reinforce accurate IPC and public health information, including to concerned people who have neither symptoms nor risk;
- put on, use, take off, and dispose of PPE properly;
- self-monitor for signs of illness and self-isolate and report illness to managers, if it occurs;
- advise management if they are experiencing signs of undue stress or mental health challenges that require supportive interventions; and

1 Including implementation of occupational safety and health management systems to identify hazards and assess risks to health and safety; IPC measures; and zero-tolerance policies towards workplace violence and harassment.
Rights, roles and responsibilities of health workers, including key considerations for occupational safety and health: Interim guidance

- report to their immediate supervisor any situation which they have reasonable justification to believe presents an imminent and serious danger to life or health.

WHO continues to monitor the situation closely for any changes that may affect this interim guidance. Should any factors change, WHO will issue a further update. Otherwise, this interim guidance document will expire 2 years after the date of publication.

Additional resources

- Emerging respiratory viruses, including COVID-19: methods for detection, prevention, response and control.
- WHO COVID-19 technical guidance
Attachment B Code of Conduct for direct workers (other) and contracted workers

A satisfactory code of conduct will contain obligations on all direct workers (other) and contracted works (including sub-contractors and day workers) that are suitable to address the following issues, as a minimum. Additional obligations may be added to respond to particular concerns of the region, the location and the project sector or to specific project requirements. The code of conduct shall contain a statement that the term “child” / “children” means any person(s) under the age of 18 years.

The issues to be addressed include:

1. Compliance with applicable laws, rules, and regulations
2. Compliance with applicable health and safety requirements to protect the local community (including vulnerable and disadvantaged groups), the Employer’s and Project Manager’s personnel, and the Contractor’s personnel, including sub-contractors and day workers, (including wearing prescribed personal protective equipment, preventing avoidable accidents and a duty to report conditions or practices that pose a safety hazard or threaten the environment)
3. The use of illegal substances
4. Non-Discrimination in dealing with the local community (including vulnerable and disadvantaged groups), the Employer’s and Project Manager’s personnel, and the Contractor’s personnel, including sub-contractors and day workers (for example on the basis of family status, ethnicity, race, gender, religion, language, marital status, age, disability (physical and mental), sexual orientation, gender identity, political conviction or social, civic, or health status)
5. Interactions with the local community(ies), members of the local community (ies), and any affected person(s) (for example to convey an attitude of respect, including to their culture and traditions)
6. Sexual harassment (for example to prohibit use of language or behavior, in particular towards women and/or children, that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate)
7. Violence including sexual and/or gender-based violence (for example acts that inflict physical, mental or sexual harm or suffering, threats of such acts, coercion, and deprivation of liberty)
8. Exploitation including sexual exploitation and abuse (for example the prohibition of the exchange of money, employment, goods, or services for sex, including sexual favors or other forms of humiliating, degrading behavior, exploitative behavior or abuse of power)
9. Protection of children (including prohibitions against sexual activity or abuse, or otherwise unacceptable behavior towards children, limiting interactions with children, and ensuring their safety in project areas)
10. Sanitation requirements (for example, to ensure workers use specified sanitary facilities provided by their employer and not open areas)
11. Avoidance of conflicts of interest (such that benefits, contracts, or employment, or any sort of preferential treatment or favors, are not provided to any person with whom there is a financial, family, or personal connection)
12. Respecting reasonable work instructions (including regarding environmental and social norms)
13. Protection and proper use of property (for example, to prohibit theft, carelessness or waste)
14. Duty to report violations of this Code
15. Non retaliation against workers who report violations of the Code, if that report is made in good faith.
The Code of Conduct should be written in plain language and signed by each worker to indicate that they have:

- received a copy of the code;
- had the code explained to them;
- acknowledged that adherence to this Code of Conduct is a condition of employment; and
- understood that violations of the Code can result in serious consequences, up to and including dismissal, or referral to legal authorities.

A copy of the code shall be displayed in a location easily accessible to the community and project affected people. It shall be provided in languages comprehensible to the local community, Contractor’s personnel (including sub-contractors and day workers), Employer’s and Project Manager’s personnel, and affected persons.
Annex VI. Screening Form for Potential Environmental and Social Issues
This form is to be used by the PCU to screen potential environmental and social risks and impacts of a proposed project activity, determine the level of risk and the type instrument to be prepared or follow-up action to be taken. It will help the PCU in identifying the relevant Environmental and Social Standards (ESS), establishing an appropriate E&S risk rating for these activities and specifying the type of environmental and social assessment required, including specific instruments/plans.

This form is for all ‘other’ activities not already pre-screened in Chapter 5 the ESMF. Before screening, also check that the activity is not listed in Ineligible Activity List (Chapter 6, Table 7 in the ESMF).

Use of this form will allow the PCU to form an initial view of the potential risks and impacts of a project activity. **It is not a substitute for project-specific E&S assessments or specific mitigation plans.**

The completed forms will be signed and kept in the Project ESF file and included in the ESF implementation progress report to be submitted to World Bank (WB) per the schedule as agreed with WB.
<table>
<thead>
<tr>
<th>Activity Name</th>
<th>Activity Location</th>
<th>Activity Proponent</th>
<th>Estimated Investment</th>
<th>Start/Completion Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Questions</th>
<th>Answer</th>
<th>ESS relevance</th>
<th>Due diligence / Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the activity involve civil works including new construction, expansion, upgrading or rehabilitation of health-care facilities and/or waste management facilities?</td>
<td>Yes</td>
<td>ESS1</td>
<td>CoESP, Construction/Renovation H&amp;S and WMP, LMP, SEP, GM</td>
</tr>
<tr>
<td>Does the activity involve land acquisition and/or restrictions on land use?</td>
<td></td>
<td>ESS5</td>
<td>Not eligible</td>
</tr>
<tr>
<td>Does the activity involve acquisition of assets for quarantine, isolation or medical treatment purposes?</td>
<td></td>
<td>ESS5</td>
<td>Not eligible</td>
</tr>
<tr>
<td>Is the activity associated with any external waste management facilities such as a sanitary landfill, incinerator, or wastewater treatment plant for health-care waste disposal?</td>
<td></td>
<td>ESS3</td>
<td>IPC&amp;WMP, SEP</td>
</tr>
<tr>
<td>Is there a sound regulatory framework and institutional capacity in place for health-care facility infection control and health-care waste management?</td>
<td></td>
<td>ESS1</td>
<td>IPC&amp;WMP, SEP</td>
</tr>
<tr>
<td>Does the activity have an adequate system in place (capacity, processes and management) to address waste?</td>
<td></td>
<td></td>
<td>IPC&amp;WMP or activity WMP, SEP</td>
</tr>
<tr>
<td>Does the activity involve recruitment of workers including direct, contracted, primary supply, and/or community workers?</td>
<td></td>
<td>ESS2</td>
<td>LMP, SEP</td>
</tr>
<tr>
<td>Does the activity have appropriate OHS procedures in place, and an adequate supply of PPE (where necessary)?</td>
<td></td>
<td></td>
<td>CoESP, LMP</td>
</tr>
<tr>
<td>Does the activity have a GM in place, to which all workers have access, designed to respond quickly and effectively?</td>
<td></td>
<td></td>
<td>Project GM</td>
</tr>
<tr>
<td>Does the activity involve transboundary transportation (including Potentially infected specimens may be transported from health-care facilities to testing laboratories, and transboundary) of specimen, samples, infectious and hazardous materials?</td>
<td>ESS3</td>
<td>Follow mitigation measures detailed in Table 5 of the ESMF, SEP</td>
<td></td>
</tr>
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</tr>
<tr>
<td>Does the activity involve use of security or military personnel during construction and/or operation of health-care facilities and related activities?</td>
<td>ESS4</td>
<td>Follow WB Technical Note: Use of Military Forces to Assist in Covid-19 Operations Suggestions on how to Mitigate Risks, SEP</td>
<td></td>
</tr>
<tr>
<td>Is the activity located within or in the vicinity of any ecologically sensitive areas?</td>
<td>ESS6</td>
<td>Not eligible</td>
<td></td>
</tr>
<tr>
<td>Are there any indigenous groups (meeting specified ESS7 criteria) present in the activity area and are they likely to be affected by the proposed activity negatively or positively?</td>
<td>ESS7</td>
<td>SEP incorporating provisions for IPs</td>
<td></td>
</tr>
<tr>
<td>Is the activity located within or in the vicinity of any known cultural heritage sites?</td>
<td>ESS8</td>
<td>Not eligible</td>
<td></td>
</tr>
<tr>
<td>Does the activity area present considerable Gender-Based Violence (GBV) and Sexual Exploitation and Abuse (SEA) risk?</td>
<td>ESS1</td>
<td>Not eligible</td>
<td></td>
</tr>
<tr>
<td>Is there any territorial dispute between two or more countries in the activity and its ancillary aspects and related activities?</td>
<td>OP7.60 Projects in Disputed Areas</td>
<td>Not eligible</td>
<td></td>
</tr>
<tr>
<td>Will the activity and any related activities involve the use or potential pollution of, or be located in international waterways?</td>
<td>OP7.50 Projects on International Waterways</td>
<td>Not eligible</td>
<td></td>
</tr>
</tbody>
</table>

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22 International waterways include any river, canal, lake or similar body of water that forms a boundary between, or any river or surface water that flows through two or more states.
Conclusions:

1. Proposed Environmental and Social Risk Ratings (High, Substantial, Moderate or Low). Provide Justifications.

2. E&S Management Plans/ Instruments to follow.

Remarks...........................................................................................................................................................................
........................................................................................................................................................................

Sign by: Activities owner: ..............................................
Position: ..........................................................................................Date ..............................................

Sign by: ..............................................................
Position: ..........................................................................................Date:..............................................
Annex VII. Environmental and Social Management Plan (ESMP) Template

The NDOH may need to develop an Environmental and Social Management Plan (ESMP) for possible CERC activities and/or additional financing activities, setting out how the environmental and social risks and impacts will be managed through the project lifecycle. This ESMP template, taken from the World Bank ESMF template for COVID-19 response, includes several matrices identifying key risks and setting out suggested E&S mitigation measures. If required, the NDOH can use these matrices to assist in identifying risks and possible mitigations.

The ESMP should also include other key elements relevant to delivery of the project, such as institutional arrangements, plans for capacity building and training plan, and background information. The NDOH may incorporate relevant sections of the ESMF and supporting documents into the ESMP, with necessary updates.

The matrices illustrate the importance of considering lifecycle management of E&S risks, including during the different phases of the project identified in the ESMF: planning and design, construction, operations and decommissioning.

The issues and risks identified in the matrix are based on current COVID-19 responses and experience of other World Bank financed healthcare sector projects. The NDOH should review and add to them during the environmental and social assessment of a project activity.

The WBG EHS Guidelines, WHO technical guidance documents and other GIIPs set out in detail many mitigation measures and good practices, and can be used by the NDOH to develop the ESMP. Proper stakeholder engagement should be conducted in determining the mitigation measures, including close involvement of medical and healthcare waste management professionals.
<table>
<thead>
<tr>
<th>Key Activities</th>
<th>Potential E&amp;S Risks and Impacts</th>
<th>Proposed Mitigation Measures</th>
<th>Responsibilities</th>
<th>Timeline</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify the type, location and scale of healthcare facilities (HCF)</td>
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<tr>
<td>Identify the need for new construction, expansion, upgrading and/or rehabilitation</td>
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<tr>
<td>Identify the needs for ancillary works and associated facilities, such as access roads, construction materials, supplies of water and power, sewage system</td>
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<tr>
<td>Identify the needs for acquisition of land and assets (e.g. acquiring existing assets such as hostel, stadium to hold potential patients)</td>
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</tr>
</tbody>
</table>
| Identify onsite and offsite waste management facilities, and waste transportation routes and service providers | Inadequate facilities and processes for treatment of waste | ➢ Estimate potential waste streams  
➢ Consider the capacity of existing facilities, and plan to increase capacity, if necessary, through construction, expansion etc.  
➢ Specify that the design of the facility considers the collection, segregation, transport and treatment of the anticipated volumes and types of healthcare wastes  
➢ Require that receptacles for waste should be sized appropriately for the waste volumes generated, and colour coded and labelled according to the types of waste to be deposited.  
Develop appropriate protocols for the collection of waste and transportation to     |                  |          |        |
<table>
<thead>
<tr>
<th>Key Activities</th>
<th>Potential E&amp;S Risks and Impacts</th>
<th>Proposed Mitigation Measures</th>
<th>Responsibilities</th>
<th>Timeline</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify needs for transboundary movement of samples, specimen, reagent, and other hazardous materials</td>
<td></td>
<td>Storage/disposal areas in accordance with WHO guidance. Design training for staff in the segregation of wastes at the time of use</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
| Identify needs for workforce and type of project workers |  | - Identify numbers and types of workers  
- Consider accommodation and measures to minimize cross infection  
- Use the COVID-19 LMP template to identify possible mitigation measures | | | |
| Identify needs for using security personnel during construction and/or operation of HCF |  |  | | | |
| HCF design – general | - Structural safety risk;  
- Functional layout and engineering control for nosocomial infection |  | | | |
<p>| HCF design - considerations for differentiated treatment for groups of higher sensitivity or vulnerable (the elderly, those with pre-existing conditions, or the very young) and those with disabilities | Some groups may have difficulty accessing health facilities |  | | | |
| Design of facility should reflect specific treatment requirements, including |  | - The design, set up and management of will take into account the advice provided by WHO guidance for Severe | | | |</p>
<table>
<thead>
<tr>
<th>Key Activities</th>
<th>Potential E&amp;S</th>
<th>Proposed Mitigation Measures</th>
</tr>
</thead>
</table>
| triage, isolation or quarantine | Acute Respiratory Infections Treatment Centre. | - Hand washing facilities should be provided at the entrances to health care facilities in line with WHO Recommendations to Member States to Improve Hygiene Practices.
- Isolation rooms should be provided and used at medical facilities for patients with possible or confirmed COVID-19.
- Isolation rooms should:
  - be single rooms with attached bathrooms (or with a dedicated commode);
  - ideally be under negative pressure (neutral pressure may be used, but positive pressure rooms should be avoided)
  - be sited away from busy areas or close to vulnerable or high-risk patients, to minimize chances of infection spread;
  - have dedicated equipment (for example blood pressure machine, peak flow meter and stethoscope
  - have signs on doors to control entry to the room, with the door kept closed;
  - have an ante-room for staff to put on and take off PPE and to wash/decontaminate before and after providing treatment. |
| Design to consider mortuary arrangements | Insufficient capacity Spread of infection | - Include adequate mortuary arrangements in the design
- See WHO Infection Prevention and Control for the safe management of a dead body in the context of COVID-19 |
## Table 2 - Environmental and Social Risks and Mitigation Measures during Construction Stage

<table>
<thead>
<tr>
<th>Activities</th>
<th>Potential E&amp;S Risks and Impacts</th>
<th>Proposed Mitigation Measures</th>
<th>Responsibilities</th>
<th>Timeline</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearing of vegetation and trees; Construction activities near ecologically sensitive areas/spots</td>
<td>- Impacts on natural habitats, ecological resources and biodiversity</td>
<td></td>
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<td></td>
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<tr>
<td>General construction activities Foundation excavation; borehole digging</td>
<td>- Impacts on soils and groundwater; - Geological risks</td>
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<tr>
<td>General construction activities</td>
<td>- Resource efficiency issues, including raw materials, water and energy use; - Materials supply</td>
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</tr>
<tr>
<td>General construction activities – general pollution management</td>
<td>- Construction solid waste; - Construction wastewater; - Noise; - Vibration; - Dust; - Air emissions from construction equipment</td>
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<tr>
<td>General construction activities – hazardous waste management</td>
<td>- Fuel, oils, lubricant</td>
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<tr>
<td>General construction activities – Labour issues</td>
<td>- Workers coming from infected areas - Co-workers becoming infected - Workers introducing infection into community/general public</td>
<td>- Refer to COVID-19 LMP - Consider ways to minimize/control movement in and out of construction areas/site. - If workers are accommodated on site require them to minimize contact with people outside the construction area/site or prohibit them from leaving the area/site for the duration of their contract - Implement procedures to confirm workers are fit for work before they</td>
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<tr>
<td>Activities</td>
<td>Potential E&amp;S Risks and Impacts</td>
<td>Proposed Mitigation Measures</td>
<td>Responsibilities</td>
<td>Timeline</td>
<td>Budget</td>
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</tbody>
</table>
| General construction activities – Occupational Health and Safety (OH&S) |  | start work, paying special to workers with underlying health issues or who may be otherwise at risk  
- Check and record temperatures of workers and other people entering the construction area/site or require self-reporting prior to or on entering  
- Provide daily briefings to workers prior to commencing work, focusing on COVID-19 specific considerations including cough etiquette, hand hygiene and distancing measures.  
- Require workers to self-monitor for possible symptoms (fever, cough) and to report to their supervisor if they have symptoms or are feeling unwell  
- Prevent a worker from an affected area or who has been in contact with an infected person from entering the construction area/site for 14 days  
- Preventing a sick worker from entering the construction area/site, referring them to local health facilities if necessary or requiring them to isolate at home for 14 days | | | | |
<p>| General construction activities – traffic and road safety | | | | | |</p>
<table>
<thead>
<tr>
<th>Activities</th>
<th>Potential E&amp;S Risks and Impacts</th>
<th>Proposed Mitigation Measures</th>
<th>Responsibilities</th>
<th>Timeline</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>General construction activities – security personnel</td>
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<tr>
<td>General construction activities – land and asset</td>
<td>Acquisition of land and assets</td>
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<tr>
<td>General construction activities</td>
<td>GBV/SEA issues</td>
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<tr>
<td>General construction activities – cultural heritage</td>
<td>Cultural heritage</td>
<td>Chance-finds procedure</td>
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<tr>
<td>General construction activities – emergency preparedness and response</td>
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<tr>
<td>Construction activities related to <em>onsite</em> waste management facilities,</td>
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<td>including temporary storage, incinerator, sewerage system and wastewater</td>
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<td>treatment works</td>
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<tr>
<td>Construction activities related to demolition of existing structures or</td>
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<td>facilities (if needed)</td>
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<td>To be expanded</td>
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</tbody>
</table>
Table 3 - Environmental and Social Risks and Mitigation Measures during Operational Stage

<table>
<thead>
<tr>
<th>Activities</th>
<th>Potential E&amp;S Risks and Impacts</th>
<th>Proposed Mitigation Measures</th>
<th>Responsibilities</th>
<th>Timeline</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>General HCF operation – Environment</td>
<td>General wastes, wastewater and air emissions</td>
<td></td>
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<tr>
<td>General HCF operation – OHS issues</td>
<td>- Physical hazards;</td>
<td>• Provide cleaning staff with adequate cleaning equipment, materials and disinfectant.</td>
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<tr>
<td></td>
<td>- Electrical and explosive hazards;</td>
<td>• Review general cleaning systems, training cleaning staff on appropriate cleaning procedures and appropriate frequency in high use or high-risk areas.</td>
<td></td>
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<tr>
<td></td>
<td>- Fire;</td>
<td>• Where cleaners will be required to clean areas that have been or are suspected to have been contaminated with COVID-19, provide appropriate PPE: gowns or aprons, gloves, eye protection (masks, goggles or face</td>
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<td></td>
<td>- Chemical use;</td>
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<tr>
<td></td>
<td>- Ergonomic hazard;</td>
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<td></td>
<td>- Radioactive hazard</td>
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<tr>
<td>HCF operation – Labour issue</td>
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<tr>
<td>HCF operation - considerations for differentiated treatment for groups with different needs (e.g. the elderly, those with pre-existing conditions, the very young, people with disabilities)</td>
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<tr>
<td>HCF operation – cleaning</td>
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<tr>
<td>Activities</td>
<td>Potential E&amp;S Risks and Impacts</td>
<td>Proposed Mitigation Measures</td>
<td>Responsibilities</td>
<td>Timeline</td>
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<tr>
<td>HCF operation - Infection control and waste management plan</td>
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<td>screens) and boots or closed work shoes. If appropriate PPE is not available, provide best available alternatives.</td>
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<tr>
<td>Waste minimization, reuse and recycling</td>
<td>Use of incinerators results in emission of dioxins, furans and particulate matter</td>
<td>➢ Where possible avoid the use of incinerators&lt;br&gt; ➢ If small-scale incineration is the only option, this should be done using best practices, and plans should be in place to transition to alternative treatment as soon as practicable (such as steam treatment prior to disposal with sterile/non-infectious shredded waste and disposed of in suitable waste facilities)&lt;br&gt; ➢ Do not use single-chamber, drum and brick incinerators&lt;br&gt; ➢ If small-scale incinerators are used, adopt best practices to minimize operational impacts</td>
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<tr>
<td>Delivery and storage of specimen, samples, reagents,</td>
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<tr>
<td>Activities</td>
<td>Potential E&amp;S Risks and Impacts</td>
<td>Proposed Mitigation Measures</td>
<td>Responsibilities</td>
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<tr>
<td>pharmaceuticals and medical supplies</td>
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<tr>
<td>Storage and handling of specimen, samples, reagents, and infectious materials</td>
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<tr>
<td>Waste segregation, packaging, colour coding and labelling</td>
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<td>Onsite collection and transport</td>
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<tr>
<td>Waste storage</td>
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<tr>
<td>Onsite waste treatment and disposal</td>
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<tr>
<td>Waste transportation to and disposal in offsite treatment and disposal facilities</td>
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<tr>
<td>Transportation and disposal at offsite waste management facilities</td>
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<tr>
<td>HCF operation – transboundary movement of specimen, samples, reagents, medical equipment, and infectious materials</td>
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<tr>
<td>Operation of acquired assets for holding potential COVID-19 patients</td>
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<tr>
<td>Emergency events</td>
<td>- Spillage;</td>
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<tr>
<td></td>
<td>- Occupational exposure to infectious disease;</td>
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<td>- Exposure to radiation;</td>
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<td>- Accidental releases of infectious or hazardous substances to the environment;</td>
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<td>- Medical equipment failure;</td>
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<td></td>
<td>➢ Emergency Response Plan</td>
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<tr>
<td>Activities</td>
<td>Potential E&amp;S Risks and Impacts</td>
<td>Proposed Mitigation Measures</td>
<td>Responsibilities</td>
<td>Timeline</td>
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</table>
| Mortuary arrangements    | - Arrangements are insufficient  
- Processes are insufficient                                                                 | ➢ Implement good infection control practices (see [WHO Infection Prevention and Control for the safe management of a dead body in the context of COVID-19](https://www.who.int/publications/i/item/infection-prevention-and-control-for-the-safe-management-of-a-dead-body-in-the-context-of-covid-19))  
➢ Use mortuaries and body bags, together with appropriate safeguards during funerals (see [WHO Practical considerations and recommendations for religious leaders and faith-based communities in the context of COVID-19](https://www.who.int/publications/i/item/practical-considerations-and-recommendations-for-religious-leaders-and-faith-based-communities-in-the-context-of-covid-19)) |                  |          |        |
Table 4 - Environmental and Social Risks and Mitigation Measures during Decommissioning

<table>
<thead>
<tr>
<th>Key Activities</th>
<th>Potential E&amp;S Risks and Impacts</th>
<th>Proposed Mitigation Measures</th>
<th>Responsibilities</th>
<th>Timeline</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decommissioning of interim HCF</td>
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<tr>
<td>Decommissioning of medical equipment</td>
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<tr>
<td>Regular decommissioning</td>
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</table>
Annex VIII. Resource List: COVID-19 Guidance

WHO Guidance

Advice for the public

- WHO advice for the public, including on social distancing, respiratory hygiene, self-quarantine, and seeking medical advice, can be consulted on this WHO website: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public

Technical guidance

- Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected, issued on March 19, 2020
- Recommendations to Member States to Improve Hygiene Practices, issued on April 1, 2020
- Severe Acute Respiratory Infections Treatment Centre, issued on March 28, 2020
- Infection prevention and control at health care facilities (with a focus on settings with limited resources), issued in 2018
- Laboratory biosafety guidance related to coronavirus disease 2019 (COVID-19), issued on March 18, 2020
- Laboratory Biosafety Manual, 3rd edition, issued in 2014
- Laboratory testing for COVID-19, including specimen collection and shipment, issued on March 19, 2020
- Prioritized Laboratory Testing Strategy According to 4Cs Transmission Scenarios, issued on March 21, 2020
- Infection Prevention and Control for the safe management of a dead body in the context of COVID-19, issued on March 24, 2020
- Key considerations for repatriation and quarantine of travellers in relation to the outbreak COVID-19, issued on February 11, 2020
- Preparedness, prevention and control of COVID-19 for refugees and migrants in non-camp settings, issued on April 17, 2020
- Coronavirus disease (COVID-19) outbreak: rights, roles and responsibilities of health workers, including key considerations for occupational safety and health, issued on March 18, 2020
- Oxygen sources and distribution for COVID-19 treatment centres, issued on April 4, 2020
- Considerations for quarantine of individuals in the context of containment for coronavirus disease (COVID-19), issued on March 19, 2020
- Operational considerations for case management of COVID-19 in health facility and community, issued on March 19, 2020
- Rational use of personal protective equipment for coronavirus disease 2019 (COVID-19), issued on February 27, 2020
- Getting your workplace ready for COVID-19, issued on March 19, 2020
- Water, sanitation, hygiene and waste management for COVID-19, issued on March 19, 2020
- Safe management of wastes from health-care activities, issued in 2014
- Advice on the use of masks in the community, during home care and in healthcare settings in the context of the novel coronavirus (COVID-19) outbreak, issued on March 19, 2020
- Disability Considerations during the COVID-19 outbreak, issued on March 26, 2020
WORLD BANK GROUP GUIDANCE

- Technical Note: Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints on conducting public meetings, issued on March 20, 2020
- Technical Note: Use of Military Forces to Assist in COVID-19 Operations, issued on March 25, 2020
- ESF/Safeguards Interim Note: COVID-19 Considerations in Construction/Civil Works Projects, issued on April 7, 2020
- Technical Note on SEA/H for HNP COVID Response Operations, issued in March 2020
- Interim Advice for IFC Clients on Preventing and Managing Health Risks of COVID-19 in the Workplace, issued on April 6, 2020
- Interim Advice for IFC Clients on Supporting Workers in the Context of COVID-19, issued on April 6, 2020
- IFC Tip Sheet for Company Leadership on Crisis Response: Facing the COVID-19 Pandemic, issued on April 6, 2020
- WBG EHS Guidelines for Healthcare Facilities, issued on April 30, 2007

ILO GUIDANCE

- ILO Standards and COVID-19 FAQ, issued on March 23, 2020 (provides a compilation of answers to most frequently asked questions related to international labour standards and COVID-19)

MFI GUIDANCE

- ADB Managing Infectious Medical Waste during the COVID-19 Pandemic
- IDB Invest Guidance for Infrastructure Projects on COVID-19: A Rapid Risk Profile and Decision Framework
- KfW DEG COVID-19 Guidance for employers, issued on March 31, 2020
- CDC Group COVID-19 Guidance for Employers, issued on March 23, 2020