Federal Democratic Republic of Ethiopia

Ministry of Health

ESMF for Additional Financing for Ethiopia COVID - 19 Emergency Response Project

Revised Report

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1. Introduction

The Ethiopia COVID-19 Emergency Response Project (P173750) was approved on April 2, 2020 prepared under the Fast Track COVID-19 Facility (FTCF). Since then, the federal government and the national regional states and city administrations have exerted immense efforts and taken various response measures to contain the transmission of the disease. While measures are expected to slow the spread of the virus, they may have substantial adverse effects on the country's socio-political situation. Given the importance of limiting the spread of COVID-19 to both health and economic recovery, further supporting health system improvements and providing access to COVID-19 vaccines will be critical to accelerate economic and social recovery in Ethiopia.

The World Bank is providing support to Governments for preparedness planning to provide optimal medical care, maintain essential health services and to minimize risks for patients and health personnel. As COVID-19 places a substantial burden on inpatient and outpatient health care services, support is provided for a number of different activities, all aimed at strengthening national health care systems, including systems for the deployment of a safe and effective vaccine. The Additional Financing (AF) would support the costs of expanding activities of the Ethiopia COVID-19 Emergency Response Project under the COVID-19 Strategic Preparedness and Response Plan (SPRP) using the Multiphase Programmatic Approach (MPA). The AF Project will have a grant fund in the amount of US$207 million.

This ESMF has been developed for use in the A and restructuring of the Ethiopia COVID-19 Emergency Response Project. The main objective of the ESMF is to establish an environmental and social management process that meets the National Environmental and Social requirements and World Bank ESF principles applicable for addressing environmental and social risks of AF subprojects. The ESMF sets out the principles, rules, guidelines and procedures to assess the environmental and social risks and impacts of the AF project. It includes an Environmental and Social Management Plan (ESMP) and the Infection Control and Waste Management Plan (ICWMP). The ESMP identifies potential environmental, social, health and safety issues associated with the construction and operation of healthcare facilities in response to COVID-19. The ICWMP focuses on infection control and healthcare waste management practices during the operation of healthcare facilities. The ESMP also contains proposed mitigation measures to reduce, mitigate and/or offset adverse risks and

impacts and information on the institutions responsible for addressing project risks and impacts. The ESMF is complimented by updated Stakeholder Engagement Plan (SEP) and updated Labor Management Procedure (LMP) which are standalone documents.

Chapter one outlines the purpose, objectives and background of the AF Project ESMF. Description of the AF Project and its components are outlined in Chapter two. The next chapter (Chapter 3) presents the review of applicable policies, legislations and World Bank ESS followed by the environmental and social baseline description which is in chapter four. Whereas the potential environmental and social risks and mitigation measures of the AF Project are presented in chapter five, essential procedures and process of the ESMF implementation are presented in chapter six. The subsequent chapters also outline the Public Consultation and Disclosure, Stakeholder engagement and ESMF Implementation arrangement in chapters seven, eight and nine respectively. Capacity building and training aspects including budget are provided in chapter 10.

1.1 Background

Ethiopia has a population of around 105 million, and is the second-most populous country in Africa after Nigeria. The government of Ethiopia has spent huge resources in the past two decades to strengthen health system and have achieved significant gains in improving the health status of Ethiopians. To this effect, Ethiopia has done well in meeting most of the MDG targets. Although tangible progress has been made in improving health care and health services, there still exist many challenges in providing health services in satisfactory manner.

The emergence of the COVID-19 global pandemic has prompted Ethiopia to develop and implement the US$82.6 million Parent Project titled: Ethiopia COVID-19 Emergency Response Project (ECERP) which was approved on April 2, 2020. Since then, the federal government and the national regional states and city administrations have exerted immense efforts and taken various response measures to contain the transmission of the disease. Given the importance of limiting the spread of COVID-19 to both health and economic recovery, further supporting health system improvements and providing access to COVID-19 vaccines will be critical to accelerate economic and social recovery in Ethiopia. To this end, the present US$207 million Additional Financing (AF) and restructuring of the Ethiopia COVID-19 Emergency Response Project has been developed. The AF would support the costs of

expanding activities of the Ethiopia COVID-19 Emergency Response Project under the COVID-19 Strategic Preparedness and Response Plan (SPRP).

The primary objective of the AF is to provide upfront financing for vaccine acquisition and deployment to enable affordable and equitable access to COVID vaccines and effective vaccine deployment in Ethiopia, including strengthening the vaccination system and further strengthening preparedness and response activities under the parent project. The proposed additional financing will help vaccinate 20 percent of the country's population. The AF project will also involve restructuring of the parent project through revision of the results framework to amend/drop some indicators which are not relevant and add new ones related to COVID-19 vaccines deployment. The Project Development Objective (PDO) for the AF will be the same as the PDO of the Parent Project which is to prevent, detect, and respond to the threat posed by COVID-19, and strengthen national systems for public health preparedness in Ethiopia.

The MoH have prepared and disclosed an ESMF for the parent project (ECERP) in June 2020 which is continuing to serve for proper screening, assessment and mitigation of potential adverse environmental, health and social impacts of the parent ECERP subproject activities. The purpose of the present revision is to prepare an updated AF ESMF that addresses the E&S risks that are likely to arise from the Additional Finance Project activities including the deployment of a safe and effective vaccine in response to COVID-19. The present AF ESMF is intended to guide the AF project implementation organs (i.e. GMU of MoH and EPHI) and the subproject proponents (i.e. HCFs) on the E&S screening and subsequent subproject assessment during implementation, including the development of subproject-specific plans in accordance with the ESF and national requirements.

2. Project Description

2.1 Brief description of the Parent ECERP Project

Both the Parent ECERP and AF Project are going to be implemented nationwide throughout Ethiopia. As an introduction to the AF project, a brief description of the main components of the parent ECERP are provided as follows.

Component 1: Medical Supplies and Equipment finances the procurement of (i) drugs and medical supplies for case management and infection prevention, including production of hand sanitizers; and (ii) equipment, reagents, testing kits, and consumable supplies for laboratories.

Component 2: Preparedness, Capacity Building and Training finances (i) coordination at the national, sub national and regional/cross-country levels, which will require substantial strengthening to prepare for and effectively manage the roll out of vaccines; (ii) Emergency Operations Center (EOC) functionalization (including sub-national coordination and support for preparedness, training, and supervision) (iii) deployment of health workers and other personnel required for COVID-19 preparedness and response, human resources for supportive supervision and subnational support, including logistics management, delivery and supervision and monitoring; (iv) operating costs for Public Health Emergency Management (PHEM) and Incident Management functions; (v) screening at designated points of entry; (vi) strengthening call/hotline centers; (vii) strengthening PHEM and community- and event-based surveillance for COVID-19; and (viii) building diagnostic capacity for COVID-19 at the sub national (regional/state) level, including preparation of guidelines and standard operating procedures (SOPs).

Component 3: Community Discussions and Information Outreach include: (i) risk communication and community engagement; (ii) behavioral and socio-cultural risk factors assessments; (iii) production of a Risk Communication and Community Engagement (RCCE) strategy to address the key gaps for the expected behavioral change for COVID-19 response; (iv) production of communication materials; (v) establishing a production center for information and communication tools to support media and community engagement; and (vi) monitoring and evidence generation; and (vii) human resources for risk communication.

Component 4: Quarantine, Isolation and Treatment Centers: through the rehabilitation of existing facilities and setting up temporary structures, establishes and equips quarantine, isolation, and treatment centers; provision of nutrition and dignity kits.

Component 5: Project Implementation and Monitoring includes: (i) support for procurement, financial management, environmental and social safeguards, monitoring and evaluation, and reporting; (ii) recruitment and training of Grants Management Unit and EPHI staff and

technical consultants; and (iii) operating costs specifically for the project staff under the Grant Management Unit (GMU) and COVID-19 hazard pay /risk allowance for staffs who will be involved in COVID-19 response at different levels.

2.2 Description of the ECERP AF Project

The Additional Finance (AF) Project will support investments to bring immunization systems and service delivery capacity to the level required to successfully deliver COVID-19 vaccines at scale. To this end, the AF project is geared to assist the GoE, working with WBG, WHO, UNICEF and other development partners, to overcome bottlenecks in the area of planning and management, supply and distribution, program delivery, systems and infrastructure as identified in the COVID-19 vaccine readiness assessment in the country.

The changes proposed for the AF Project entail expanding the scope of activities in the Ethiopia COVID-19 Emergency Response Parent Project and adjusting its overall design. The components and the Results Framework of the Parent Project have been ~~would be~~ adjusted to reflect the expanded scope and new activities proposed under the AF. The implementation arrangement will also be adjusted by adding the vaccine implementation structures (Ethiopia Food and Drug Administration (EFDA) and Ethiopia Pharmaceutical Supply Agency (EPSA)) to the Parent Project implementation arrangement. As the proposed activities to be funded under the AF are aligned with the original PDO of the parent project, the PDO would remain unchanged. The PDO is *to prevent, detect, and respond to the threat posed by COVID-19, and strengthen national systems for public health preparedness in Ethiopia*.

The AF will support investments through the five Components of the parent Ethiopia COVID-19 ERP project expanded by the addition of the following proposed new activities under each component.

Component 1. Medical Supplies and Equipment: The AF under this component will finance: Support for the implementation of priority activities under the Emergency Preparedness and Response Plan, related to case management and infection prevention and control, including through the provision of: (i) Project COVID-19 Vaccine in quantities sufficient to vaccinate at least 4 percent of the population; (ii) vaccination supplies needed for activities outlined in the Vaccine Delivery and Distribution Manual including diluents,

syringes, and medical supplies associated with the vaccination response; (iii) climate-friendly cold chain inputs, including LED lamps and refrigerators, (iv) maintenance of existing cold chain equipment; (v) infection prevention and waste management; and (vi) Project COVID-19 vaccine storage and transportation. The project will procure PPE that is designed for the female body in adequate supply for female health workers and volunteers. Ethiopia will utilize the Gavi-COVAX AMC facility for vaccine purchase and financing mechanisms.

Component 2. Preparedness, Capacity Building and Training: The AF will finance: (i) Operating costs; (ii) the development of a COVID-19 vaccination card, COVID registry, report and analytical tools; training plan for vaccine introduction; (iii) deployment of health professionals and training on surveillance, supply chain, and emergency preparedness for climate hazards; (iv) development of micro-level Project COVID-19 Vaccine deployment plans at national and sub national levels; (v) establishment of regulatory measures for the procurement/ importation of project COVID-19 vaccine and related supplies; vaccine safety, licensure pharmacovigilance; (vi) project COVID-19 vaccine inoculation training for front line health personnel; (vii) supervision on project COVID-19 vaccine safety and Adverse Event Following Immunization (AEFI) monitoring for regulators and Expanded Program for Immunization (EPI) officers; (viii) strengthening of regional AEFI investigation task force and support for AEFI case investigations; (ix) preparation of data protection guidelines (including personal data), draft consent forms, developing standard operation protocols (SOP); (x) developing innovative registries for key Project COVID-19 Vaccine target groups, identification of target populations; monitoring and evaluation including establishment of a mechanism to track adverse reactions to vaccines.

Component 3. Community Discussions and Information Outreach: The AF will finance: (i) human resource capacity for risk communication, (ii) the development of social mobilization and community engagement strategies (using local languages) to increase vaccine acceptance and COVID- 19 prevention behaviors; (iii) monitor COVID-19 Vaccine acceptance/hesitancy; (iv) establish compliant handling mechanisms at all levels (Federal MOH, Regional Health Bureau, Woreda Health Office and Facility); and (v) deployment of risk communication officers and other human resources to expand and accelerate vaccine deployment efforts.

Component 4. Quarantine, Isolation and Treatment Centers and regulatory infrastructure: The AF will finance establishment of the regulatory infrastructure and capacity for safety surveillance of the Project COVID-19 Vaccine, including refurbishing and equipping a Project COVID-19 Vaccine laboratory under the Ethiopian Food and Drug Administration (EFDA). Ethiopia is currently contracting out the vaccine laboratory testing undertaken, which has its own limitation in terms of selecting an independent laboratory. The absence of a vaccine laboratory within the regulatory body of the health sector has negative implications concerning the quality, timeline, and cost of the vaccine deployment. Given that COVID-19 vaccine research and development and vaccine improvement will be the major and critical assignment for the upcoming years, this laboratory will have significant importance in terms of facilitating licensing and registering any potential COVID-19 candidates in the future.

Component 5. Project Implementation and Monitoring: **Proposed new activities:** The AF will finance the creation of accountability, grievances, and citizen and community engagement mechanisms.

The AF will finance technical assistance to support Ethiopia to address the readiness gaps identified in the VRAF assessment and extend to establish institutional frameworks for the safe and effective deployment of vaccines, which will contribute to the resilience of vulnerable groups to the predicted health impacts of climate change. These will include: a) establishment of policies related to ensuring that there is no forced vaccination; b) acceptable approved policy for prioritized intra-country vaccine allocation; c) regulatory standards at the national level, including pharmacovigilance; d) appropriate minimum standards for vaccine management including cold chain infrastructure (with financing as well for the investment to meet those standards as described below); and e) the creation of accountability, grievances, and citizen and community engagement mechanisms. In addition, the AF will finance upfront community mobilization and advocacy to increase vaccine acceptance.

No major civil works are expected in the AF project and any works will take place in existing health facilities without a need for land aquisition. However, there will be small-scale re-fubrishing, renovation and equiping activities to be carried on existing buildings.

The selection of the target population and vaccine deployment process seek to ensure equity in access for vaccines among key eligible populations. Health inequity is intertwined with the

impact of COVID-19 where certain populations are at increased risk of severe illness or death. At the national and sub-national levels, data are showing a disproportionate impact of the pandemic on populations already disadvantaged by virtue of their age, health status, residence, occupation, and socioeconomic status and hence the vaccine introduction strategy has given consideration to these disproportionate impact in the selection of vaccine deployment strategies.

Phase 1 (20% total population coverage): Phase 1 has a reasonable scenario of the target groups to achieve the goal of reducing mortality and morbidity. It includes the following target groups:

- Frontline workers in health care, schools, and other social care services
- People over the age of 65 years; and
- People under the age of 65 years with underlying conditions that expose them to higher COVID-19 related mortality risk

Frontline workers will be prioritized as they are essential to treat and protect the population and come in close contact with infected individuals and provide care for high-mortality risk groups. Initial epidemiological data has shown that adults over 65 years of age and those with certain co-morbidities are at the highest risk of dying from COVID-19.

The strategy to be used to reach each of the priority groups will be using the existing primary healthcare approach and other innovative approaches tailored to the context of the priority groups. Existing vaccine delivery strategies which are used in the routine EPI system which includes Static (at health facilities or community level); and Outreach (fixed community outreach and/or mobile community outreach). However, door to door strategy will also be used for those priority groups who are above the age of 65 and immobile and those bedridden peoples with co-morbidity.

The government has made further prioritization of those target groups in phase 1 taking into account different scenarios of vaccine availability and based on analysis of global and local epidemiological and scientific evidences and defined who should receive the vaccine sooner than others. Accordingly, those target groups in phase 1 are grouped into Phase 1a and Phase 1b that would have progressive access to the vaccine, based on descending priority.

a. Phase 1a (1-10% of total population coverage): is a scenario of very limited vaccine availability for initial distribution. Since frontline workers are not just at risk of being

infected but also pose a higher risk of transmitting the virus, will be initially prioritized. This is with the assumption that demand for COVID-19 vaccines is likely to outstrip supply, at least initially, it estimates that if COVID-19 vaccines are made available to the country, priority will be given first to protect 3% of the population, this is expected to be sufficient to protect every health and social care worker in the country. This phase also targets those population groups aged > 65 years of age (7% of the population). The major objective of covering those priority groups in Phase 1a is with an objective of protecting the integrity of the health care system, other social care settings and reducing severe morbidity and mortality by reaching out to those who are at most risk (age >65 years).

b. Phase 1b (additional 11-20% of population coverage): is a scenario as vaccine supply increases but availability remains limited. This group included those individuals with critical co-morbidities (10%) such as those with HIV/AIDS, TB, Diabetes Mellitus and other chronic diseases.

The COVID 19 vaccine introduction strategy has given a higher emphasis to ensuring gender equity. While at a biological level COVID-19 is currently assumed to pose similar risks to men and women, social factors and the distribution of co-morbidities across age and gender introduce different disease burdens from COVID-19 for different population groups. For example, Ethiopia's health system is highly dependent on female health workers (represent 70% of health sector workers) which puts them in a higher risk of exposure to COVID-19. In line with the global trend, local data confirmed that the pandemic disproportionately affected those with compromised immunity either as a result of age (>65 years of age) or co-morbidities. Hence, the vaccine deployment strategy employs house-to-house visit to reach those who have limited ability to visit health facility or outreach sites to receive the vaccine.

2.3 Project Implementation Arrangements

The project implementation arrangement will basically follow the Parent project structure with some adjustments made to include the vaccine implementation structures (EFDA and EPSA). The MOH through its GMU will remain to be the implementing agency for the AF Project and the Office of the Minister will be responsible for the oversight function. In addition to MOH and the Ethiopia Public Health Institute (EPHI), which are the implementing entities under the Parent Project, the Ethiopia Pharmaceutical Supply Agency (EPSA) and Ethiopian Food and Drug Administration (EFDA) will both support the

Partnership and Coordination Directorate (PCD) and directly implement certain activities under the AF for activities outlined in the National COVID-19 vaccine rollout plan. Technical assistance under the AF will be implemented by MOH and provided by UNICEF on behalf of the Government; procurement of vaccines (for 4 percent of the population) and shipment of the vaccines will be handled by UNICEF through a contract agreement between MOH and UNICEF using a Bank approved contract template.

The GMU of the MOH's in collaboration with Maternal and Child Health Directorate (MCHD) and Inter-Agency Coordination Committee (ICC) is responsible for the day-to-day management of activities supported under the project, as well as the preparation of a consolidated annual work plan for the Parent Project and AF project. In addition, MOH-respective directorates, the regional health bureaus, and other key agencies implement some of the project activities based on their functional capacities and institutional mandates. The MCHD and Ethiopia Public Health Institute (EPHI), Ethiopian Pharmaceutical Supply Agency (EPSA) and Ethiopian Food and Drug Administration (EFDA) will also continue to serve as the key technical entities for this project. MCHD, EPHI, EPSA and EFDA will both support the PCD and directly implement certain activities under the Parent and AF for activities outlined in the National COVID vaccine rollout plan.

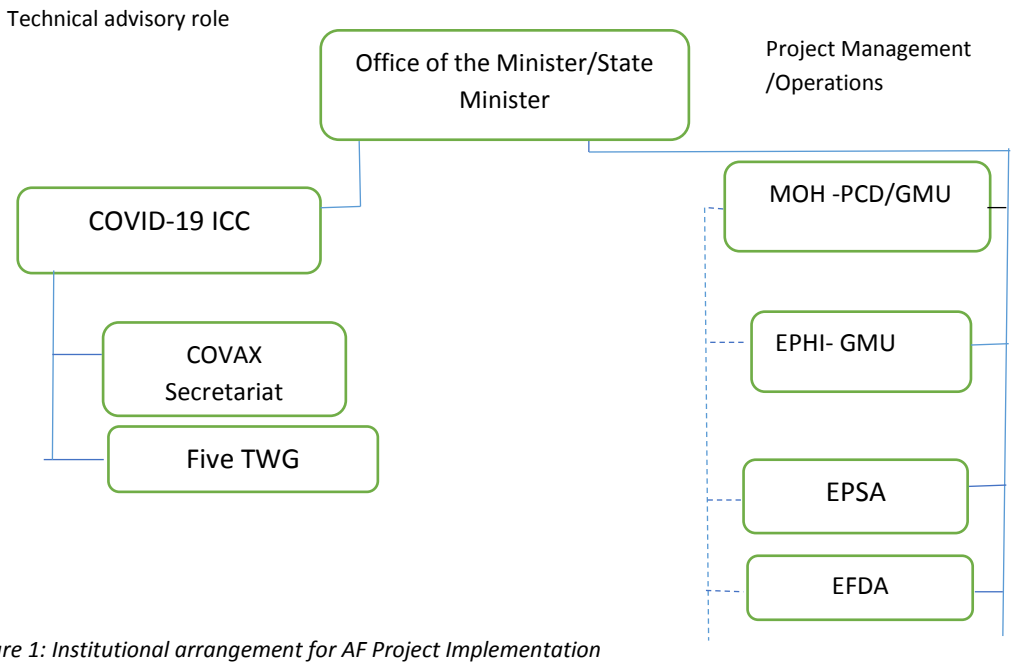


Figure 1: Institutional arrangement for AF Project Implementation

Furthermore, the vaccine coordination and advisory platforms, such as National Immunization Technical Advisory Group (NITAG) and the ICC, will participate in the

implementation of the AF project. NITAG is responsible for providing independent, evidence-informed technical recommendations to guide the introduction of the COVID-19 vaccine and review and contextualize vaccine introduction policy guidance issued by WHO and other international platforms. The ICC is the COVID-19 vaccine technical coordination committee that provides support to the MOH in coordinating the overall planning, implementation, and monitoring of the COVID-19 vaccine introduction and coordination among partners in support of the COVID-19 vaccine access and delivery and control of the pandemic.

3. Policy, Legal and Institutional Framework

In this section, pertinent Ethiopian and the World Bank legal and institutional framework has been reviewed.

3.1 National Regulatory Framework

This section describes the legal and regulatory requirements for environmental and social impact assessment and management in Ethiopia. There are a number of relevant government policies and legislations that provide directions towards achieving a safe and healthy environment. These are briefly described as follows.

3.1.1 The FDRE Constitution

The constitution of the Federal Democratic Republic of Ethiopia (FDRE) provides the overriding principles for all legislative frameworks in the country. The right of Ethiopian people to clean and healthy environment is enshrined in the constitution under the following articles.

- **Article 43.** The Right to Development identifies citizens' right to improved living standards and sustainable development and participate in national development and to be consulted with respect to policies and projects affecting their community.
- **Article 44.** Environmental Rights stipulations that all citizens have the right to a clean and healthy environment; and those who have been displaced or whose livelihoods have been adversely affected as a result of state programs have a right to commensurate monetary or alternative means of compensation, including relocation with adequate state assistance.
- **Article 92.** Environmental objectives are identified as government would endeavor to ensure that all Ethiopians live in a clean and healthy environment. The design and implementation of programs would not damage nor destroy the environment. Citizens also have a right to full consultation and to expression of views in the planning and implementation of environmental policies and projects that directly affect them. Government and citizens would have the duty to protect the environment.

The National Conservation Strategy (1995) takes a holistic view of natural and cultural resources and seeks to present a coherent framework of plans, policies, and investments related to environmental sustainability. The Strategy consists of five volumes: Natural

Resource Base, Policy and Strategy, Institutional Framework, Action Plan, and Compilation of Investment Program.

3.1.2 Environmental Policy of Ethiopia

The Environmental Policy of Ethiopia was approved by the Council of Ministers in 1997. It is comprised of 10 sector and 10 cross-sector components, one of which addresses Human Settlements, Urban Environment and Environmental Health. The Policy is based on the findings and recommendations of the National Conservation Strategy of Ethiopia. The Policy contains elements that emphasize the importance of mainstreaming socio-ecological dimensions in development programs and projects. The goal of the Environmental Policy of Ethiopia is to improve and enhance the health and quality of life of all Ethiopians and to promote sustainable social and economic development through sound management of the environment and use of resources so as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs. The Environmental Policy provides a number of guiding principles that require adherence to the general principles of sustainable development. In particular, the need to ensure that Environmental Impact Assessment (ESIA) completes the following:

- Considers impacts on human and natural environments,
- Provides for early consideration of environmental impacts in project and program design,
- Recognizes public consultation processes as essential to effective management,
- Includes mitigation and contingency plans,
- Provides for auditing and monitoring,

3.1.3 Environmental Proclamations, Regulation and Guidelines Relevant to this project

Proclamation 299/2002, Environmental Impact Assessment makes ESIAs mandatory for implementation of major development projects, programs, and plans. The Proclamation is a tool for harmonizing and integrating environmental, economic, cultural, and social considerations into decision making processes in a manner that promotes sustainable development. The proclamation clearly defines:

- Why there is a need to prepare ESIAs,

- What procedure is to be followed in order to implement ESIA
- The depth of environmental impact studies,
- Which projects require full ESIA reports,
- Which projects need partial or no ESIA report,
- To whom the report must be submitted.

Proclamation 513/2007, Solid Waste Management aims to promote community participation to prevent adverse impacts and enhance benefits resulting from solid waste management. It provides for preparation of solid waste management action plans by urban local governments.

Proclamation 200/2000, Public Health Proclamation; Public Health Proclamation comprehensively addresses aspects of public health including among others, water quality control, waste handling and disposal, availability of toilet facilities, and the health permit and registration of different operations. The Proclamation prohibits the disposal of untreated solid or liquid hazardous wastes into water bodies or the environment that can affect human health.

Proclamation 300/2002, Environmental Pollution Control requires developmental activities to consider environmental impacts before their establishment. The proclamation requires ongoing activities to implement measures that reduce the degree of pollution to a set limit or quality standard. Thus, one of the dictates of the proclamation is to ensure, through inspection, the compliance of ongoing activities with the standards and regulations of the country through an environmental audit.

Proclamation 295/2002, Establishment of Environmental Protection Organs establishes the organizational requirements and identifies the need to establish a system that enables coordinated but differentiated responsibilities of environmental protection agencies at federal and regional levels. The proclamation indicates duties of different administrative levels responsible for applying federal law.

Proclamation 159/2008, Prevention of Industrial Pollution Regulation: As a follow up to Proclamation 300/2002, the regulation to prevent industrial pollution was developed by the Federal Environmental Protection Authority to ensure compatibility of industrial development with environmental conservation. This Proclamation includes comprehensive industrial pollution standards for a range of industrial and mining activities.

Waste Handling and Disposal Guideline, 1997: The Waste Handling and Disposal Guidelines have been in use by health facilities since 1997. The Guidelines are meant to help industry and local authorities handle medical waste situation at the local level.

Proclamation 189/2010, Ethiopian Food, Medicine and Health Care Administration (FMHACA) and Control Authority Establishment Council of Ministers gives FMHACA the mandate to protect consumer health by ensuring the standard of health institutions and the hygiene and environmental health protection requirements for communities.

Proclamation 661/2009, Food, Medicine and Health Care Administration and Control provides provisions to:

- Ensure proper disposal of expired medicine and foods and raw materials,
- Ensure handling and disposal of trans-regional solid and liquid wastes from different institutions are not harmful to public health,
- Ensure the quality of trans-regional water supply for the public is up to the standard,
- Ensure availability of necessary hygienic requirements in public health institutions,
- Ensure any waste generated from health or research institutions is handled with special care and disposed of according to procedures that meet national standards,
- Ensure that untreated waste generated from septic tanks, seepage pits, and industries is not discharged into the environment, water bodies or water convergences.

National Health Care Waste Management (HCWM) Strategic Action Plan 2015/16-2019/20 focuses on thematic areas:

- Legal and regulatory framework to provide guidance to health care managers on minimum operation requirements and the need to standardize HCWM practices in all healthcare facilities in the country;
- Process of operational research in pollution reduction and adoption of environmentally friendly technologies;
- Conduct behavioral changes targeting patients, care givers, visitors, and the community in the vicinity of health facilities.

Health and Safety Guidelines for Public Health Laboratories in Ethiopia, 2010: provides guidance on laboratory waste disinfectant, handling, and disposal and to serve as a helpful reference and guide for all public health laboratories in the country.

National Hygiene and Sanitation Strategic Action Plan 2015/16-2019/20: This Plan focuses scale up community led and school led total sanitation and hygiene and sanitation marketing, build adaptation and resilience to climate change in health sector. A separate national strategy is under development to address large-scale and communal off-site sanitation needs in urban areas in Ethiopia.

Medicinal Waste Management and Disposal Directive, 2011 is applicable to (a) disposal of medicinal waste, but not to medical equipment or management of other healthcare waste generated by health institutions; and (b) all governmental, nongovernmental and private organizations involved in medicinal waste handling and disposal. The Directive requires disposal firms to have secured an appropriate disposal site depending on the Environmental Impact Assessment conducted with support of the Federal Environmental Protection Authority. In addition, a disposal firm is required to have all the facility and practice standards prescribed under this Directive.

The Guideline for Waste Handling and Disposal in Health Facilities (2006) was developed to:

- Enable health professionals to protect themselves against health hazards which might be encountered as a result of their occupation.
- Create awareness among healthcare workers about the importance of safe disposal of waste generated at health facilities.
- Prevent and control environmental pollution by waste carelessly disposed of from health facilities; Provide technical support to health professionals and environmental health workers engaged in day-to-day health inspection and control activities.

Labour Proclamation 1156/2019: The Labour Proclamation (which was revised in 2019) provides the basic principles which govern labor conditions taking into account the political, economic and social policies of the Government, and in conformity with the international conventions and treaties to which Ethiopia is a party. The proclamation under its Part Seven, Chapter One, and Article 92 of this proclamation deals with occupational safety, health and working environment, prevention measures and obligations of the employers. Accordingly, the Proclamation obliges the employer to take the necessary measure for adequate safeguarding of the workers in terms of their health and safety. In addition, in this proclamation under its Part Six, Chapter1 and 2 described about safety of women and young

by stating that women are not assigned on the works that may risk to women health and also overnight work including night shift work. Regarding young employees, organizations do not hire young personnel less than 15 years old and if they hire young between age 15 and 18 years, they should not allow to work more than 7 hours per day and also overnight work including night shift work Moreover, the Occupation Health and Safety Directive provides the limits for occupational exposure to working conditions that have adverse impacts on health and safety.

3.1.4 Environmental and Social Impact Assessment Guidelines and Directives

The former Ministry of Environment Forest Climate Change has published series of ESIA guidelines for the different sectors outlining the key issues, principles, procedures and processes to be adopted and adhered to avoid and/or mitigate potentially negative environmental and social impacts during project planning, implementation and operation by government, public and private entities. Some of the guidelines are generic and applicable in different sectors and there are also sector specific guidelines prepared for key environmental and social issues to adhere during the ESIA analysis in those specific sectors.

Environmental Impact Assessment Guideline, May 2000

The guideline provides the policy and legislative framework, the general ESIA process and key sectoral environmental issues, standards and recommendations for environmental management in key sectors such as agriculture, industry, transport, tannery, dams and reservoirs, mining, textiles, irrigation, hydropower and resettlement projects.

Environmental and Social Management Plan Preparation Guideline, Nov. 2004

This guideline provides the essential components to be covered in any environmental management plan (e.g., identified impacts, mitigation measures, monitoring, capacity building, etc.) Similar guidelines for the different sectors include the following:

- Environmental and Social Impact Assessment Guidelines for Dams and Reservoirs, 2004
- Environmental Impact Assessment Guideline for Fertilizer, 2004
- Guidelines for Social, Environmental and Ecological Impact Assessment and
- Environmental Hygiene in Settlement Areas, 2004

ESIA Procedural Guideline (draft), November 2003: This guideline outlines the screening, review, and approval process for development projects in Ethiopia and defines the criteria for undertaking an ESIA. Similarly, **the ESIA Guideline, July 2000** provides essential information covering the following elements:

- Environmental Assessment and Management in Ethiopia;
- Environmental Impact Assessment Process;
- Standards and Guidelines;
- Issues for sector environmental impact assessment in Ethiopia covering agriculture, industry, transport, mining, dams and reservoirs, tanneries, textiles, hydropower generation, irrigation projects and resettlement;

3.2 International Environmental Conventions

Ethiopia has ratified several international/multilateral environmental conventions and many of the principles and provisions in those conventions have been well addressed in the national environmental policies and regulations. Some of these conventions include the following:

- Convention on Access to Information, Public Participation in Decision-making and, Access to Justice in Environmental Matters, Done at Aarhus, Denmark, On 25 June 1998,
- Cartagena Protocol on Bio-Safety to the Convention on Biological Diversity
- Convention on Biological Diversity, Rio, 5 June, 1992
- Kyoto Protocol to the United Nations Framework Convention on Climate Change
- United Nations Convention to Combat Desertification
- UN Framework Convention on Climate Change
- Convention for the Protection of the World Cultural and Natural Heritage Paris, 23 November 1972 Ethiopia is also party to the following four international conventions, which directly or indirectly deal with human health and the environment. These include:
- Persistent Organic Pollutants of Stockholm Convention, which tries to completely eliminate organochlorine and other equally dangerous organohalogen chemicals from the earth.
- Bamako Convention, which prohibits the importation of hazardous wastes into, and their movement in, Africa.

- Basel Convention, which strictly regulates the movement of hazardous waste globally. Recently, it has incorporated the prohibition of the importation of hazardous wastes into developing countries from the Bamako Convention.
- The first Prior Informed Consent or Rotterdam Convention, which tries to ensure that anybody buying a chemical has complete and accurate information about the nature and impacts of that chemical before he/she decides and notifies his/her consent in writing to the exporter.

3.3 World Bank Environmental and Social Standards

According to the World Bank Environmental and Social Framework (ESF), projects supported by the Bank through Investment Project Financing are required to meet the Environmental and Social Standards (ESS). The ESS are designed to help Clients to manage the risks and impacts of a project, and improve their environmental and social performance, through a risk and outcomes-based approach. Clients are required to manage environmental and social risks and impacts of the project throughout the project life cycle in a systematic manner, proportionate to the nature and scale of the project and the potential risks and impacts. Table 1 below presents the ESS that are applicable to the present AF project.

The client has prepared an Environmental and Social Commitment plan (ESCP) outlining detailed commitments to support compliance with the ESS of the Environmental and Social Framework (ESF) of the Bank. The ESCP describes the different management tools that the Client will use to develop and implement the agreed measures and actions. These management tools, among others, includes the updating of the Parent Ethiopia COVID-19 ERP ESMF so that it will serve as a basis for the identification and management of EHS risks associated with the AF. The ESMF will serve as an instrument to satisfy the Bank's ESS1 on Assessment and Management of Environmental and Social Risks and Impacts in the present context of the AF project ~~and it will also be applicable to the Parent Ethiopia COVID-19 ERP.~~

Table 1: Summary of ESSs triggered by the AF Project

World Bank Environmental and Social Standards (ESS)	**Applicable**	**Explanation**

ESS1: Assessment and Management of Environmental and Social Risks and Impacts	Yes	The AF COVID-19 emergency response project will finance: vaccine purchasing; service delivery of COVID-19 vaccination including trainings and deployment of technical assistants; cold chain and logistics; surveillance and monitoring, infection prevention and waste management. COVID-19 vaccination activities can have potential environmental, health and safety (EHS) risks if appropriate waste collection, transportation and disposal methods are not put place and implemented. Healthcare facilities could generate biological, chemical wastes, and other hazardous by-products that could be injurious to human health. There may also be COVID-19 infections due to inadequate adherence to occupational health and safety standards that can lead to illness among healthcare workers. There would also be environmental, OHS risks associated with the rehabilitation of medical facilities/minor civil works to be financed by the AF (such as repair, rehabilitation and construction of handwashing stations). Drawbacks in the cold chain system of the country may compromise the potency of the vaccines. These E&S risks need to be adressed at subproject level by conducting assessments that result in recommending mitigation measures. The ESMF, ESMP and ICWMP are designed to identify these potential impacts and direct the GMU team to practical ways of avoiding or mitigating them. **Note**: For projects involving multiple small subprojects, that are identified, prepared and implemented during the course of the project, the MoH GMU will carry out appropriate environmental and social assessment of subprojects, and prepare and implement such subprojects, as follows: (a) High Risk subprojects, in accordance with the ESSs; (b) Substantial Risk, Moderate Risk and Low Risk subprojects, in accordance with national law and any requirements of the ESSs that the Bank deems relevant to such subprojects. Note also that the overall Environmental and social risk rating of the AF Project is “Substantial”. Annex-III of the Federal EFCCC ESIA Procedural Guideline, (November 2003) has outlined the schedule of activities (subprojects) for which a full ESIA, Preliminary ESIA or no action is required. The schedule of activities listed in Annex-III of the guideline is widely applied by the Federal and Regional competent authorities to classify sub-projects into one of the three Categories. Though these two categorization systems follow different approaches, a close scrutiny of the list of scheduled activities in the national classification systems and the impact properties applied for classifying the four risk levels in the ESF shows some resemblance. For example many of the Schedule 1 activities appears to potentially cause adverse impacts with properties that can fulfill in the high risk subproject group, though again, this is also dependent on the specific nature of the subproject site for both. Taking these and other observations into consideration, an attempt should be made to correlate the two classification systems for appropriate application in this ESMF process. In Amhara Regional State, EFWPDA has issued the list of subprojects that are reviewed and approved at Regional, Zonal and Woreda level environment offices.

ESS2: Labor and Working Conditions	Yes	The AF project will engage public workers, workers hired by the project (direct workers such as consultants, technical experts in GMU and other workers), and workers hired by contractors under the project. Most activities supported by the project are going to be conducted by health- and laboratory workers, i.e. civil servants employed by the Government of Ethiopia. Activities to be carried encompass treatment of patients as well as assessment of samples and provision of vaccines. The key risk is contamination with COVID-19 (or other contagious illnesses as patients taken seriously ill with COVID-19 are likely to suffer from illnesses which compromise the immunes system), which can lead to illness and death of workers. The project may outsource minor works to contractors. The envisaged works will be of minor scale and thus pose limited risks. Also, no large-scale labor influx is expected due to the same circumstance. Thus, ESS2 remains relevant and is triggered by the AF project The project will ensure a basic, responsive grievance mechanism to allow workers to quickly inform management of labor issues via MoH. The Labor Management Procedures (LMP) is will be prepared for the for Project. The LMP provide detailed information on the work terms and conditions; and procedures to address workers grievances.
ESS3: Resource Efficiency and Pollution Prevention and Management	Yes	Medical wastes and chemical wastes (including reagents, infected materials, etc.) from the health facilities can have significant impact on environment and human health. Wastes that may be generated from medical facilities/ labs could include liquid contaminated waste, sharps, chemicals and other hazardous materials which can pollute the environment if improperly managed. The cold chain system should be energy efficient and should also try to rely on sustainable energy sources whenever practicable. The Project activities will also need to consider alternatives and implement technically feasible activities to reduce project related GHG emissions such as use of the renewable energy sources and implementation of the energy efficiency measures in health care facilities. These are among the major concern that seek due attention during project implementation to ensure efficiency in resource use. As a result ESS 3 will be relevant to the subproject activities and remains relevant to the AF Project.
ESS4 Community Health and Safety	Yes	Medical wastes and general waste from health centers and quarantine and isolation centers have a high potential of carrying micro-organisms that can infect the community at large if it is not properly disposed of. The operation of quarantine and isolation centers needs to be implemented in a way that both, the wider public, as well as the quarantined patients are treated in line with international best practice. This includes addressing avoidance of any form of Sexual Exploitation and Abuse as well as protocols in case of use of security personnel. The COVID-19 vaccine to be procured shall be deemed safe and approved. The client will also strengthen its immunization pharmacovigilance system. The AF project activities would need to ensure these and other aspects of the AF Project activities are properly managed to avoid adverse risks on community health. Thus, ESS4 is also relevant and is triggered by the AF project. ESS4 is also relevant with regard to provisions for GBV, i.e., as part of the

		communication component, the Project has and will continue to include messages related to GBV and sexual harassment, as well as GBV referral services.
ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	No	The AF will not cover civil works requiring land acquisition, restriction on land use and involuntary resettlement. Refubrishment works will be conducted within existing facilities. However, should the need arise for the project to acquire land, appropriate plans in accordance with ESS5 guidelines will be prepared and cleared by the Bank prior to any displacement. Thus, ESS 5 is not relevant to the AF Project.
ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources	Yes	No major construction or rehabilitation activities are expected in this project and all works will be conducted within existing facilities. Hence, likely impacts of the project on natural resources and biodiversity are low. However, if medical and chemical wastes are not properly disposed of, they can have impacts on living natural resources. Site specific waste management plans (ICWMPs) and ESMPs will be prepared following the requirements of the ESMF. Hence, ESS 6 is relevant for this project.
ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Yes	Due to the country-wide rollout of activities, it is likely that it will also affect people meeting the criteria of ESS7, notably in the emerging regions and potentially pastoralists at its borders. On the vaccine campaign, expectedly, the focus will be on urban areas first. But in case SSAHUTLC will be targeted, respective engagement on the demand side (i.e. potential cultural concerns around vaccines) as well as supply side (i.e. cold chain towards remote or pastoralist communities) will need to be ensured by the client.The project activities are not expected to impact intangible cultural heritage of IP/SSAHUTLC, who may have certain traditional medicinal practices. Hence, ESS7 is relevant for this project.
ESS8 Cultural Heritage	Yes	No major construction or rehabilitation activities are expected in this project and all works will be conducted within existing facilities. Hence, likely impact of the project on cultural heritage is low.
ESS9 Financial Intermediaries	No	Financial Intermediaries (FIs) are not involved in this project.
ESS10 Stakeholder Engagement and Information Disclosure	Yes	The AF project will need to engage with stakeholders based upon meaningful consultation and disclosure of appropriate information, considering the specific challenges associated with COVID-19, including the vaccination campaign. The RCCE strategy outlines how rumors and misinformation are identified and addressed. Particularly, rumors and misinformation monitoring, analysis and response have been done and this will continue to be implemented. The approaches taken should ensure that information is meaningful, timely, and accessible to all affected stakeholders, including usage of different languages, addressing cultural sensitivities, as well as challenges deriving from illiteracy or disabilities. The project should ensure that information disclosure takes place in an on-going and satisfactory manner, with clear and accessible messaging on safety of vaccines, principles of fair, equitable and inclusive vaccines access and allocation, as well as rationale for prioritizing certain groups where stakeholder engagement takes place in

		an on-going manner, at different levels, with different partners, and in a culturally appropriate manner. The SEP will also be amended in parallel and also address how to equip medical personnel with the necessary information to engage pro-actively with beneficiaries. People affected by Project activities shall be provided with an accessible and inclusive greivance mechanism to raise concerns and grievances. Thus ESS 10 remains relevant for the AF project.

3.4 *Relevant EHS Guidelines (World Bank Group) for AF project*

The Environment Health and Safety general and sector guidelines provide information on a variety of issues which need to be adopted to mitigate adverse environmental and safety issues that may likely arise during the implementation of AF project. The most relevant of these guidelines to the AF projects include the following:

- EHS Guideline for Health Care Facilities
- EHS General Guideline Section 1 to 4

3.4.1 EHS Guidelines for Health Care Facilities

The EHS guideline for Health Care Facilities provide specific guidance on a range of issues involving HCF design considerations, environmental aspects consisting of waste management (solid, air emissions and wastewater), occupational health and safety, as well as community health as applicable to health care facilities. The guideline provides important mitigation recommendations in the aforementioned areas which are applicable to the AF projects activities and hence the document was consulted and applied in the ESMF as appropriate.

3.4.2 EHS General Guideline

The EHS general guideline section 1 to 4 provides guidance on prevention and control of environmental, occupational health and safety, community health and safety, as well as on construction and decommissioning impacts that may occur during new project development, at the end of the project life-cycle, or due to expansion or modification of existing project facilities. As some of the AF subprojects consist of building modification activities which will involve manual labor work activities, section 2.0 and 4.0 of the EHS general guidance provides some appropriate strategies and recommendations useful to minimize occupational health and safety hazards and demolition waste management. It describes the sources of hazards and recommended strategies for the prevention of risks associated with over-exertion, slips and falls, work in heights, struck by objects, and working in confined spaces and

excavations in construction and decommissioning sites. These recommendations of the EHS guidance are highly applicable for the AF subprojects and would need to be considered during course of subproject implementation.

3.5 Relevant World Health Organization (WHO) and Center for Disease Control (CDC) Guidelines

The development of this AF ESMF has also benefited from several WHO and CDC guideline documents. Both the Parent and AF project ESMF have made further reference to the World Health Organization (WHO) and CDC guideline documents in several sections to provide detailed guidances on issues of importance to the practitioners on the ground. Some of the WHO and CDC guideline documents refered and applied in the present ESMF includes;

- Technical guidance Coronavirus disease (COVID-19): Risk communication and community engagement.
- Interim Guidance: COVID-19: Occupational health and safety for health workers, February, 2021
- Vaccine Storage and Handling Toolkit, March, 2021, US Center for Disease Control and Prevention Updated with COVID-19 Vaccine Storage and Handling Information, Addendum added March 4, 2021.
- WHO Interim Guidance for Technical Specifications of Personal Protective Equipment for COVID-19, November 2020.

Other WHO resources which could be refered 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 centers, (viii) vaccine readiness assessment, (ix) surveillance of adverse events following immunization[1].

[1] https://www.who.int/vaccine_safety/publications/aefi_surveillance/en/

4. Environmental and Social Baseline Conditions

Both the Parent ECERP and AF Projects are going to be implemented nationwide across Ethiopia. This chapter provides general information on relevant baseline conditions characterizing the context in which the AF project is going to be implemented.

4.1 Health Services in Ethiopia

Health service provision in Ethiopia includes a wide range of providers in both the public and private sectors, such as public facilities managed by federal, regional state, zonal and woreda administration and private for-profit providers, NGOs, community-based and faith-based organizations and traditional care givers (WHO 2002). Currently there are 290 hospitals, 3962 health centers, and 16547 health posts under the regional and federal government which provides health care services. Ethiopian health care delivery system has three-tiers, to deliver essential health services and ensure referral linkages.

The first tier is primary health care unit in woreda health system comprises health posts, health centres and primary hospitals. Secondary health service includes general hospitals. Tertiary facilities form the highest level of healthcare in the country and include Specialist Hospitals, Teaching Hospitals and Federal Referral Hospitals.

4.1.1 Ethiopia and Immunization Programme

In Ethiopia, EPI was launched in 1980 with six antigens (Bacillus Calmette–Guérin (BCG), Polio, Diphtheria and tetanus toxoids and whole-cell pertussis (DPT/DTP) and Measles vaccines). Several new vaccines have been introduced over time (Hepatitis B (HepB) and Hib in combination with DPT as Pentavalent in 2007, Pneumococcal Conjugate Vaccine (PCV10) in 2011, Rota in 2013, Inactivated Poliovirus Vaccine (IPV) in 2015 and switch from Oral Polio Vaccine (tOPV) to bOPV in 2016, Human Papillomavirus (HPV) in December 2018, and Measles antigen-containing vaccines (MCV2) in February 2019). At present, the switch from PCV10 to PCV13 and TT to Td is ongoing in 2020. Currently, 12 antigens are provided through routine EPI including TT. In addition, preparation is ongoing for piloting Hep B birth dose in four woredas in the country. The use of static sites, outreach sites and mobile teams are utilized as appropriate strategies for delivering immunization services. All public hospitals, health centers, and health posts are expected to provide immunization services; some private health facilities also provide immunization services.

EPI coverage in Ethiopia, nationally, as well in regions, showed an increasing trend in the past years. The current administrative coverage as Joint Reporting Framework (JRF) 2019 reached 97% for Penta3 and 91% for measles first dose (MCV1). Based on the Ethiopian Demographic and Health Survey (EDHS) results, EPI coverage increased over the past years, including Penta3 coverage of 29% in EDHS 2005, to 53% in EDHS 2016, and 61% in Mini EDHS 2019.

4.1.2 COVID-19 Epidemiology in Ethiopia

The first COVID-19 case in Ethiopia was reported on 13th March 2020. Subsequently, the government declared a five-month state of emergency in April 2020. As of 25th January 2021, there have been 134,132 total cumulative confirmed cases and 2071 deaths (CFR 1.54%) since the start of the outbreak in mid-March. Over half (61%) of the total case-patients are female, and 74% are between age 15-44 years old. The majority of cases (58%) continue to be from Addis Ababa city, followed by Oromia region (16%). Ethiopia is the 4th COVID-19 highest affected countries in Africa following South Africa, Morocco, and Egypt.

The impact of the Covid-19 pandemic in Ethiopia has been multi-faceted involving social, economic, and psychological aspects as a result jeopardizing the overall well-being of its people. The pandemic's negative impact on health for instance has not been limited to COVID-19 mortality and morbidity. Essential public health services have been disrupted in many parts of the country, including routine immunization services which increases the risk of vaccine-preventable disease like measles and polio; prevention and treatment services acute and chronic, communicable and non-communicable diseases and their complications, maternal and child health services; and mental health and rehabilitation are among others.

The negative impact on essential health services was marked during the initial three to four months of the pandemic (March – June 2020). Immunization coverage has declined and drop-outs have been increasing during the COVID-19 pandemic period; planned polio and measles vaccine campaigns were delayed and Vaccine Preventable Disease (VPD) surveillance has been interrupted. The major reasons that led for the decline of health service provision/utilization include: diverted attention of health managers and services providers to respond the COVID-19 pandemic, declaration of state of emergency leading to movement restrictions and problems in transport to seek health care, shift of health workforce and health

resources for responding COVID-19 pandemic, decreased follow up and supervision of essential health services, delayed optimization of Essential Health Services, some special health services postponed (e.g. Measles SIA), and decreased community health seeking due to fear of acquiring COVID-19 at health facilities. The Government, in collaboration with partners, is doing maximum efforts on the response to the COVID-19 pandemic. Among the major interventions include: intensified case search, investigation and lab testing; establishing quarantine centers, establishing and expansion of COVID-19 treatment centers and diagnostic facilities, enforcement of COVID-19 prevention and infection prevention and control (IPC) measures, promotion of disease prevention and control, ensuring the continuity of Essential Health Services, and distributing vital medical supplies for COVID and non-COVID essential health services.

4.2 Isolation and Treatment, Quarantine, and Point of Entry Centers

Ethiopia shares long borders with South Sudan, Kenya, Sudan, Djibouti, Eritrea and Somali land. Currently as part of preventing the COVID-19 importation, there has been health screening at 26 Point of Entrys (PoE), four being at international airports. The inherent nature of the border across the country is that they are located far from the primary health care units to transfer the suspected persons with contagious diseases, nor do the nearest existing health facilities have isolation facilities set up. The PoEs are one of the key players in the cross border communicable diseases control and it needs to have the capacities including but not limited to isolation/quarantine center, public health coordination office at designated PoEs, surveillance system integrated into routine national surveillance system, medical service delivery, routine and emergency public health measures, contingency plans for public health emergencies at PoEs, vaccination services for travelers, public health checking counters, arrangement for transportation and handling of human dead bodies.

4.3 Targeting and prioritizing for vaccination

Administration of COVID-19 Vaccine will require a phased approach due to incremental availability of vaccine supply over time. Utilizing the SAGE Values Framework and the WHO Roadmap for Prioritization, Ethiopia developed a prioritization plan under different vaccine supply availability scenarios. Ethiopia has also followed current COVID-19 epidemiology data and SAGE's roadmap for prioritization of target population to identify most at risk and prioritize them for the upcoming COVID-19 vaccine. As there is currently ongoing community transmission of SARS-CoV-2 virus, Ethiopia followed the framework

for Epidemiologic Scenario 1 for prioritization of target populations for vaccination. Built on the WHO fair allocation mechanism for COVID-19 vaccines through the COVAX Facility, COVID-19 vaccine allocation is planned in two phases. The key objectives of the prioritization of the groups is to avert COVID-19 morbidity and mortality by stopping the spread of COVID-19 infection to minimize societal and economic disruption. The specific objectives includes;

- ✓ To protect the integrity of the health care system by vaccinating > 90% frontline health workers.
- ✓ To restore social and economic functionality by vaccinating >90% of individuals working in essential societal services.
- ✓ To ultimately reach population immunity and reduce transmission on COVID-19 by vaccinating > 90% healthier adults and younger population.

The COVID-19 vaccine introduction strategy has given a higher emphasis to ensuring gender equity. While at a biological level COVID-19 is currently assumed to pose similar risks to men and women, social factors and the distribution of co-morbidities across age and gender introduce different disease burdens from COVID-19 for different population groups. For example, Ethiopia's health system is highly dependent on female health workers (represent 70% of health sector workers) which puts them in a higher risk of exposure to COVID-19. In line with the global trend, local data confirmed that the pandemic disproportionately affected those with compromised immunity either as a result of age (>65 years of age) or co-morbidities. Hence, the vaccine deployment strategy employs house-to-house visit to reach those who have limited ability to visit health facility or outreach sites to receive the vaccine.

On the social side, ensuring access for the most vulnerable to the vaccination process is important and the targeting methodology and, equally, the logistical structure need to take this targeting into consideration; a respective global discussion is included in the WHO Framework for Allocation and Prioritization of COVID-19 Vaccination, noting the following groups:

- ✓ Homeless people and those living in informal settlements or urban slums
- ✓ Disadvantaged or persecuted ethnic, racial, gender, and religious groups, and sexual minorities and people living with disabilities
- ✓ Low-income migrant workers, refugees, internally displaced persons, asylum seekers, populations in conflict setting or those affected by humanitarian emergencies,

vulnerable migrants in irregular situations, nomadic populations

- ✓ Hard to reach population groups

The potential strategies used to deliver a vaccine will depend on the vaccine properties, vaccine availability and characteristics of the select target population. The traditional delivery strategies such as at health facilities, community outreaches and settings where the target population will easily access the vaccines will be employed.

4.4 Status of Cold chain capacity in Ethiopia

According to the National Deployment and Vaccination plan for COVID-19, EPSA is managing over 60 walk-in cold rooms and 3 walk-in freezer rooms currently. As per the national CCE inventory result, there are a total of 6199 non-functional cold chain equipment such as refrigerators and freezers due to lack of spare parts for maintenance. Thus, spare parts will be procured for non-functional refrigerators and freezers and cold chain technicians will conduct the cold chain assessment and maintenance for a month prior to the campaign. There are also refrigerators which are obsolete and needs to be replaced. Using the resources from the COVAX CCE support, some of the districts will be equipped with optimal refrigerators. As per the CCE gap analysis, an additional 9 WICRs will be required to accommodate the first supply of COVID-19 vaccines (~5% from the total target population) at the central EPSA and some of the hubs. Therefore, the additional requirements will be addressed using the COVAX CCE support for the national and district level. Resources will be mobilized to procure and establish ultra-cold facilities such as procurement of ultra-cold chain freezers, passive transport boxes/containers which can maintain storage temperature up to -80°C OR 5°C (dry ice or 4°C PCM/ Cool pack) to store and transport ultra-cold chain vaccines. Private firms working on production of dry ice technology will be approached to provide service rendered on this regard.

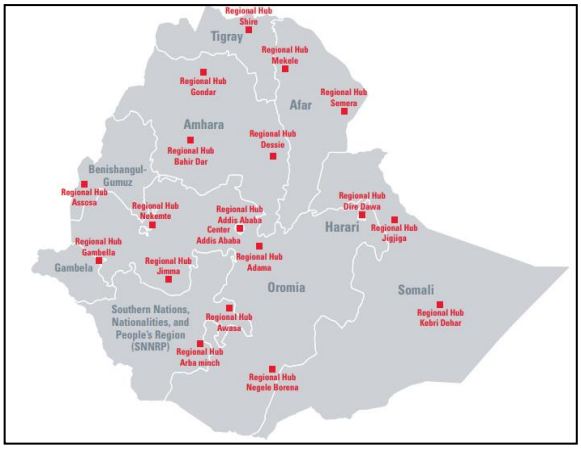


Figure 2 Regional Hubs in Ethiopia

The total cold chain capacity at the country and specifically at the airports is outlined in the tables below by storage temperature.

Table 2: Cold Chain Storage Assessment

Storage requirement	Current total cold storage capacity at the national level
2-8°C	732.5 m^3 net available
-20°C	48.3 m^3net available
-70°C (ultra-cold chain)	0 m^3 net available

4.5 Healthcare Waste Management Practices in Ethiopia

Major constraints with HCWM practices in Ethiopia range from inadequate funding to unavailability of resources and inadequate infrastructure. There is also a low level of manpower training that currently exists for HCWM at all levels all across Ethiopia. A recent study done in Ethiopia in 1327 health facilities to assess the waste handling and disposal system showed that medical waste in 32.6% of the studied health facilities was stored in covered containers, and in about 27% of them it was stored in another protected environment. About 40% of health facilities stored their medical waste in unprotected areas. The proportion of using safe medical waste disposal method was high in referral hospitals (87.9%). This shows the utilization of safe medical waste disposal methods is in decreasing order from higher to lower levels of organization in health facilities (Derso et al 2018, cited in HCWMP Ethiopia, 2018).

Another study conducted in selected hospitals at Addis Ababa Ethiopia showed that an average waste generation rate varied between 0.4 and 0.7 kg/patient/d and was comprised of 58.7% non-hazardous and 41.3% hazardous wastes (Debere et al., 2011, cited in HCWMP Ethiopia, 2018). This difference was also observed in health centres in rural and urban settings. Similar study conducted in Addis Ababa revealed that the average healthcare waste generation rate was 9.6 kg/d, of which 62% (5.97 kg/d) was hazardous (Tadesse et al., 2014, cited in HCWMP Ethiopia, 2018). On the other hand, rural health centres contributed about 48.0% (0.9 kg/d) hazardous waste (Azage et al., 2010, cited in HCWMP Ethiopia, 2018).

Out of the many medical waste treatment technologies, incineration is the most preferable and common treatment method for medical waste in Ethiopia. Incineration ranks third in the

waste management hierarchy, accompanied by source reduction, reuse, recycling, and final disposal/landfilling. Next to incineration, landfills for medical waste are ranked second as a final waste management technology in the Ethiopian healthcare system.

The Client's latest environment, health and safety (EHS) report for the parent project shows that considerable attention has been given to meet the EHS compliance requirements of the project. According to the report, in order to ensure proper medical waste handling and management at COVID-19 facilities, waste handlers and cleaners were trained and provided with appropriate personal protective equipment. Color coded dust bins and biohazard bags were procured and distributed to each regional state. Finally, the health care wastes were incinerated.

4.6 Waste Treatment Methods in Ethiopia by Waste Class

The Ethiopia Healthcare Waste Management National Guideline 2008 categorises HCW in Ethiopia into nine classes. These are:

Non Hazardous Waste (Class 1): These should be separated from other HCW and Non-risk health care waste should be disposed of similarly to domestic garbage and food waste (burning, municipal waste collection, land fill, etc.).

Clinical Waste (Class 2): These wastes should be burnt and buried in protected pits and the waste containers should never be placed in public areas.

Sharps (Class 3): This waste should first be incinerated before being landfilled. In the alternative, they can be encapsulated and then landfilled.

Anatomical Wastes and placentas (Class 4): Anatomical wastes such as placentas can be buried at depths of over 1 metre inside the HCF.

Hazardous pharmaceutical and cytotoxic waste (Class 5): These should be burnt in temperature around and exceeding $1200^{O}C$. If the HCF can afford to build a Cement Kilns, then they can be treated at the HCF, if not, these should be transported to a central treatment centre. These should never be disposed of in sewers or landfilled without appropriate treatment.

Highly Infectious Wastes (Class 6): These wastes should be autoclaved at a temperature of 121°C for at least 20 minutes at source. Or it should be treated in a concentrated solution of Sodium Hypochlorite (NaClO) before being disposed with other wastes.

Radioactive Wastes (Class 7): These wastes can be stored in designated rooms cordoned off from access and allowed to decay to background level. Once at background level, the non-infectious radioactive wastes can then be treated the same way as Class 1 HCW while the infectious radioactive waste should be treated the same way as Class 2 HCW.

Waste with high contents of heavy metals (Class 8): This should be treated as a specialised kind of waste and should be collected and stored in a tin container at room temperature and transported to where it will be treated in an environmentally sound manner.

Effluents (Class 9): All effluents in HCFs shall be drained to a septic tank or cesspool for both storage and treatment in the compound of the HCF.

The treatment options are based on the prevailing health systems in Ethiopia as revealed in the Healthcare Waste Management National Guideline (HCWMNG). In Ethiopia, burning in low-cost incinerators, burying or chemical disinfectant HCW is for the present moment probably the most affordable and acceptable options for smaller health care facilities. As per the 2020 national CCI data, at 20,798 health facilities, there are 5439 functional incinerators. This will be equivalent with the assumption to have one incinerator per five health facilities. Basic assumptions; one incinerator per 5HFs will be available, 2 waste managers will be deployed in each incineration site, 5 liter fuel per site, heavy duty gloves and apron protection will be ready for waste disposal managers, per diem also considered for waste managers. Waste managers will be trained on how to handle health care waste and all the necessary supplies (hard glove, kerosene, etc.).

Preparations will be done to ensure safety of injections, proper waste disposal and AEFI prevention, early detection, investigation and management. The existing injection safety and waste management system is adequate to accommodate the COVID-19 vaccine introduction. The National policy of waste disposal is either incineration or burn and bury and all facilities will be required to follow this policy. However, the waste disposal will be conducted using incinerators as all health centres have incinerators. Some health facilities like health posts without incinerators will transport waste to incineration points at nearby health facilities.

4.7 Vaccine Deployment in Conflict Areas

Political unrest in different parts of the country and the conflict in Tigray region have posed additional challenges both for basic health service provision and deployment of the COVID-

19 vaccine. As per the outcome of the Rapid Need Assessment[2] conducted by the GoE and humanitarian partners following months of violent fighting between federal and regional forces in the northernmost reaches of the country since November 2020, critical humanitarian assistance and protection response are required for about 4.5 million people in the region, regional authorities stated. The health and nutritional sectors have been severely and adversely affected. Most of the health facilities that are outside of the major towns are not functioning. The conflict has also an adverse effect on health workers. The region has run entirely out of medical and nutrition supplies as some of these supplies were looted or destroyed, including medical equipment and ambulances. According to the UN report, health care in the region is deeply inadequate, with just three of Tigray's 11 hospitals functioning and nearly 80 percent of health centers not functional or accessible. Aid workers have stated that many health centers have been looted, hit by artillery fire, or destroyed.

A COVID-19 vaccine deployment specific micro plan is under development in Tigray region and other areas with security challenges. The micro plan identifies how the priority target populations will be reached in areas of challenging security context including priority groups in the IDP camps. The MOH is working with humanitarian organizations through the HPN to use a combination of vaccine deployment, integrated public health services, and humanitarian organizations. The MOH has also acknowledged that, based on the evolving context, security forces may provide their support to protect the transportation of COVID19 vaccines and supplies in Tigray region and other areas where there are security challenges.

5. Potential Environment and Social Risks and Mitigation

As the main activities of the AF project desires to build on the activities being implemented under the parent Ethiopia COVID-19 ERP project, both the beneficial and adverse environmental and social risks are likely to be shared by the AF sub-project activities. These environmental and social risks and associated mitigation measures are outlined in the ESMF for the parent Ethiopia COVID-19 ERP project which can be referred for application for the

[2] Joint Rapid Needs Assessment Mission conducted in four towns of south Tigray by government and development partners (Ministry of Peace, Ministry of Water Irrigation and Energy, Ethiopia Public Health Institute, National Disaster Risk Management Commission, Ministry of Women and Children , Ministry of Agriculture, WHO, UNICEF, IOM, OHCHR, UNFPA, CRS-food security/USAID, ACF, OCHA, WFP, and UNDSS, December 2020.

AF subproject activities as appropriate. This section will focus on outlining the potential environmental and social risks that are likely to occur from the new AF project component activities and will recommend associated mitigation measures.

The anticipated environmental and social risks of the AF project are likely to occur from the newly added activities under Component 1, Component 2, and Component 4 of the AF project. The E&S risks from Component 1 involve new activities for procurement of COVID-19 vaccines, vaccination supplies such as diluents, syringes, and e.t.c, climate friendly cold chain equipment and maintenance of existing cold chain equipment, PPE for female health workers and volunteers, as well as project COVID-19 vaccine storage and transportation, infection prevention and waste management. The E&S risks likely to arise from component 2 mainly involve the supervision activities on project COVID-19 vaccine safety and Adverse Event Following Immunization (AEFI) monitoring. Component 4 includes an activity on refurbishing and equipping a Project COVID-19 Vaccine laboratory under the Ethiopian Food and Drug Administration (EFDA) which is also anticipated to entail limited E&S risks during construction. On the other side, Ethiopia will be providing the vaccines at fixed posts at existing static and outreach sites. In addition to this, however, other feasible modes of delivery will be designed to reach some special target groups, among which can include establishing temporary vaccination posts or mobile teams in nearby areas. The anticipated E&S risks of these activities are likely to occur during the different phases of AF project implementation, i.e. planning, construction, operation and decommissioning phases. Accordingly, the anticipated E&S risks from the stated component activities are analyzed by grouping into planning, construction, operation and decommissioning phases and mitigation measures proposed in the following sections.

5.1 E & S risks during planning phase

5.1.1 E & S risks during procurement of goods and services

The potential risks of procurement activities are usually prevented by careful planning and precise detailing of the required specifications that avoids or minimizes harm to health and the environment. The major procurement activities to be carried by the AF project involves the purchase of COVID-19 vaccines, vaccination supplies, climate friendly cold chain

equipment and PPEs for COVID-19 health workers. The E&S risks during procurement are outlined as follows.

5.1.1.1 Procurement of Project Vaccine

As it is known, the COVID-19 vaccines are new products which are in short supply in the market. The short and long term E & S risks associated with the procurement, use and disposal of the vaccines (i.e. if under any circumstance it becomes impotent) are also yet to be discovered in the course of implementation. However, like most Countries in the region, Ethiopia will utilize the Gavi-COVAX AMC facility for vaccine purchase to follow best international practices during procurement. The COVID-19 vaccine to be procured shall be deemed safe and approved by 3 Stringent Regulatory Authorities in three regions or one with WHO pre-qualification and approval by 1 Stringent Regulatory Authority according to its Project Appraisal Document for the COVID-19 Multi Phase Programmatic Approach Additional Financing. In cases where the Bank is supporting vaccine distribution, but the vaccines to be used do not fit the above approval criteria, the ~~regional Environmental and Social Standards Advisor (ESSA)~~ Bank shall be consulted for guidance. There might also be risks associated with the safety and adverse effects of the new vaccine. Hence, the risk needs to be mitigated through the agreement between the GoE and COVAX Facility to address potential liability and compensation in the event of unexpected serious adverse events arising from the manufacture, storage, transportation, and administration of COVID-19 vaccines for AMC Countries. The Ethiopian Government has agreed to this clause.

5.1.1.2 Risk associated with procurement of Sub-standard PPEs

Procurement of poor quality PPE may exacerbate COVID-19 infection transmission to healthcare workers and cleaners in relation to laboratory procedures, interaction with COVID-19 patients and handling of healthcare waste. mitigation measures includes;

- Adhere to the procurement plan for acquisition of all personal protective equipment from certified suppliers only.
- Carry out due diligence for all potential suppliers to guarantee quality supply of personal protective equipment and products.
- Abide by the WHO interim guidance on rational use of PPE for coronavirus disease 2019 over the types and quality of PPE required for different functions.

- The healthcare workers shall be provided with medical personal protective equipment (PPE) that includes: Medical mask, Gown, Apron, Eye protection (goggles or face shield), Respirator (N95 or FFP2 standard), Boots/closed work shoes and trained on use.
- Carry out due diligence for the COVID-19 vaccine value chain according to the WHO Technical specifications document for procurement of PPE equipment is available at: https://www.who.int/publications/i/item/WHO-2019-nCoV-PPE_specifications-2020 and the GAVI Cold Chain technical specifications for procurement available at: https://www.gavi.org/sites/default/files/publications/Cold-chain-equipment-technology-guide.pdf.

5.1.1.3 Impact as a result of improper procurement of Medical Supplies

The project shall procure medical supplies such as diluents, syringes, sample collection and packaging supplies, lab reagents, pharmaceutical supplies among others. Other medical supplies and consumables to be procured will include PPEs, syringes and safety boxes, vaccine sharp disposal containers. Procurement of poor quality medical supplies may lead to the spread of infections to the healthcare workers due to poor handling of samples collection and packaging supplies, lab reagents, vaccines, pharmaceutical supplies, e.t.c. Falsified and substandard medical products including PPE pose risks to health and lives. mitigation measures includes;

- Procurement of medical products should adhere to national regulation and/or to GIIP and to any vaccine manufacturers requirements. The WHO Technical specifications document for procurement of PPE equipment is available at: https://www.who.int/publications/i/item/WHO-2019-nCoV-PPE_specifications-2020 and the GAVI Cold Chain technical specifications for procurement available at: https://www.gavi.org/sites/default/files/publications/Cold-chain-equipment-technology-guide.pdf.
- Adhere to the procurement plan for acquisition of all medical supplies and equipment from certified suppliers only.
- Carry out due diligence for all potential suppliers to guarantee quality equipment and products.

5.1.1.4. Procurement of maintenance equipment's for cold chain

One of the activities the AF project will undertake involves the procurement of climate friendly cold chain equipment and maintenance of existing cold chain equipment. According to the Ethiopia National Deployment and Vaccination Plan for COVID-19 Vaccines, there are a total of 6199 non-functional cold chain equipment such as refrigerators and freezers due to lack of spare parts for maintenance (as per the national CCE inventory result). The procurement of new cold chain equipment and spare parts for maintaining the existing non-functional equipment will need to consider environmental aspects by including specifications that seek for energy efficiency and reduction of GHG as well as Ozone depleting substance emissions on the procured equipment.

While the cold chain is an integral part of achieving immunization targets, it comes with an environmental cost, including both energy emissions (indirect emissions) and leaks of highly GHG potent hydro fluorocarbon (HFC), and refrigerant gases (direct emissions). The cold chain system should be energy efficient and should also try to rely on sustainable energy sources whenever practical. The AF Project activities will consider alternatives and implement technically and financially feasible options to reduce project related GHG emissions, such as use of the renewable energy sources and implementation of the energy efficiency measures in health care facilities.

5.1.2 E & S risks related to location, type and scale of healthcare facilities and associated waste management facilities.

a. Location of facilities:

The AF project activities related to the COVID-19 vaccine deployment are planned to be implemented in existing health facilities throughout the Country. While making selection of HCF for COVID-19 vaccine deployment, in addition to the other vital criteria for suitability check, considerations should also be made with regard to its proximity to sensitive areas such as a cultural heritage site or a nature reserve, nearby sensitive social receptors such as a residential area or school and availability of municipal services such as public water supply, sewage and waste collection services at the location. However, for those priority groups who are above the age of 65 and immobile and those bedridden peoples with co-morbidity door to door service will be provided.

Ethiopia will be providing the vaccines at fixed posts at existing static and outreach sites. In addition, other feasible modes of delivery will be designed to reach some special target groups, among which can include establishing temporary vaccination posts or mobile teams in nearby areas. COVID-19 vaccination sites other than the HCFs that have existing and

operational hygiene and sanitation and waste management will ensure the availability of public water supply, sewage and waste collection services.

b. Type and scale of facilities

COVID-19 vaccination sites will maintain hygiene and waste management practices in accordance with the ICWMP in Annex IV.

The following infection prevention and control measures shall be adhered to when selecting COVID-19 vaccination sites:

- Providing specific appointment times or other strategies to manage patient flow and avoid crowding and long lines.
- Ensuring sufficient staff and resources to help move patients through the clinic flow as quickly as possible.
- Limiting the overall number of clinic attendees at any given time, particularly for people at higher risk for severe illness from COVID-19.
- Setting up a unidirectional site flow with signs, ropes, or other measures to direct site traffic and ensure physical distancing between patients.
- When feasible, arranging a separate vaccination area or separate hours for people at increased risk for severe illness from COVID-19, such as older adults and people with underlying medical conditions.
- Making available a point of contact for any reasonable accommodation needs for people with disabilities.
- Selecting a space large enough to ensure a minimum distance of 2meters (6 feet) between patients in line or in waiting areas for vaccination, between vaccination stations, and in post-vaccination monitoring areas.
- The quantity of COVID-19 vaccine transported to a satellite, temporary, or off-site COVID-19 vaccination clinic should be based on the anticipated number of COVID-19 vaccine recipients and the ability of the vaccination provider to store, handle, and transport the vaccine appropriately. This is essential to minimizing the potential for vaccine wastage and spoilage.
- COVID-19 vaccines may be transported—not shipped—to a satellite, temporary, or off-site COVID-19 vaccination clinic setting using vaccine transportation procedures outlined in the upcoming COVID-19 addendum to CDC's Vaccine Storage and

Handling Toolkit. The procedures will include transporting vaccines to and from the provider site at appropriate temperatures, using appropriate equipment, safety requirements, as well as guidelines for monitoring and documenting temperatures.

- Conduct a checklist inspection of the receiving facility to ensure correct storage and set up protocol are in place.
- Upon arrival at the COVID-19 vaccination clinic site, vaccines must be stored correctly to maintain appropriate temperature throughout the clinic day.
- Temperature data must be reviewed and documented according to guidance in the upcoming COVID-19 addendum to CDC's Vaccine Storage and Handling Toolkit.
- At the end of the clinic day, temperature data must be assessed prior to returning vaccine to fixed storage units to prevent administration of vaccines that may have been compromised.
- As with all vaccines, if COVID-19 vaccines are exposed to temperature excursions at any time, the temperature excursion should be documented and reported according to the national immunization program's procedures. The vaccines that were exposed to out-of-range temperatures must be labeled "do not use" and stored at the required temperature until further information on usability can be gathered or further instruction on disposition or recovery is received.

C. Quarantine and isolation centers:

There are about 26 up and running Point of entry, Quarantine and Isolation centers in Ethiopia. As these Point of Entry, Quarantine, and Isolation centers mainly provide services for COVID 19 suspect cases, there might be unrecognized asymptomatic and pre-symptomatic infections which likely can contribute to transmission in these and other healthcare settings. The risk posed by COVID-19 depends on characteristics of the virus, including how easily it spreads between people; the severity of resulting illness; and the medical or other measures available to control the impact of the virus (for example, vaccines or medications that can treat the illness) and the relative success of these.

MoH will ensure that proper design and functional layout of HCF vaccination sites to include: i) structural and equipment safety, life and fire safety, universal access[3]; ii) nosocomial infection[4] control; iii) waste segregation, storage and processing. Design and

[3] Refer to ESS 4 Community Health and Safety.
[4] Nosocomial infection can be described as an infection acquired in hospital by a patient who was admitted for a reason other than that infection. Also called "hospital acquired infection".

functional layout will refer to the National Policy on Injection Safety, Prevention of Transmission of Nosocomial Infections and Healthcare Waste Management Plan (2018) and to the WHO Practical manual to set up and manage a Severe Acute Respiratory Infections (SARI) treatment center and a SARI screening facility in health care facilities available at: https://www.who.int/publications/i/item/10665-331603.

Mitigation measure for risk associated with point of entry, quarantine, and isolation centers includes:

- Provision of adequate training for HCWs;
- 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;
- Monitoring HCW compliance with standard precautions and providing mechanisms for improvement as needed.
- Ensure that cleaning and disinfection procedures are followed consistently and correctly.
- Reduce facility risk: when possible, limit points of entry and manage visitors, screen everyone entering the facility for COVID-19 symptoms, implement source control for everyone entering the facility, regardless of symptoms.
- Isolate symptomatic patients as soon as possible: Set up separate, well-ventilated triage areas, place patients with suspected or confirmed COVID-19 in private rooms with the door closed and with private bathrooms (as possible).
- Reserve AIIRs for patients with COVID-19 undergoing aerosol generating procedures and for care of patients with pathogens transmitted by the airborne route (e.g., tuberculosis, measles, varicella).
- Protect healthcare personnel; Emphasize hand hygiene, install barriers to limit contact with patients at triage, cohort patients with COVID-19, limit the numbers of staff providing their care, prioritize respirators for aerosol generating procedures (ensuring an adequate patient-to-staff ratio
- Performing hand hygiene frequently with an alcohol-based hand rub
- Avoiding touching your eyes, nose, and mouth;
- Practicing respiratory hygiene
- Use Personal Protective Equipment (PPE); wearing a medical mask;

- Maintaining social distance (a minimum of 1 meter).
- Appropriate personal protective equipment, or other physical containment devices must be used whenever: procedures with a potential for creating infectious aerosols or splashes are conducted.
- Eye and face protection (goggles, mask, face shield or other splatter guard) is used for anticipated splashes or sprays of infectious or other hazardous materials
- Gloves must be worn to protect hands from exposure to hazardous materials. Glove selection would be based on an appropriate risk assessment.

5.1.3 E & S risks related to vaccine readiness and prioritization

Ethiopia has taken significant steps in the preparations for COVID-19 vaccine introduction, including formation of a planning/coordination structure, indicating participation in COVAX and requesting support from Gavi for COVID-19 vaccine introduction and cold chain supply.

The COVID-19 vaccine introduction coordination is led by the COVID-19 Interagency Coordinating Committee (ICC), the highest coordination committee assisting the Ministry of Health by coordinating technical and resource mobilization for planning, implementing, and monitoring of COVID-19 vaccine introduction. Under the ICC, five thematic Technical Working Groups (TWGs) with members from Government health sectors and partners have been established to work on the preparatory activities of the COVID-19 vaccine introduction.

Due to concern of limited supply of vaccine for the entire population, Ethiopia has followed SAGE's roadmap and country SARS CoV-2 epidemiology for prioritization of target populations to identify most at risk and prioritize them for the upcoming COVID-19 vaccination. Accordingly, health workers, older adults above the age of 65 years, and adults with comorbidities are considered highest risk, and therefore, key priority groups.

The MoH have developed a National Deployment and Vaccination Plan for COVID-19 recently. The country plans to vaccinate 20% of the national population during phase 1 which is sub divided into the initial 3% (equivalent to 3,450,000 people) under phase 1(a) to be followed by additional 17% (equivalent to 20,896,351people) under phase 1(b). The target priority population for vaccination in phase 1(a) includes health workers, highest risk and other essential/frontline workers, whereas phase 1(b) will target older people and individuals with underlying health conditions.

The country's overarching goal of introducing COVID-19 vaccine is to save lives and mitigate societal and economic impact by reducing COVID-19 transmission and mortality

due to COVID-19 infections. To achieve this goal, eleven areas have been prioritized in the national vaccine deployment and vaccination plan taking into consideration the particular aspects of COVID-19 vaccine introduction:

i. Regulatory preparedness;
ii. Planning and coordination;
iii. Resources and funding;
iv. target populations and Vaccine delivery strategies;
v. Supply chain management and health care waste management;
vi. Human resources management and training;
vii. Vaccine acceptance and uptake (demand);
viii. Vaccine safety monitoring and management of AEFI and injection safety;
ix. Immunization monitoring system;
x. COVID-19 Disease surveillance;
xi. Evaluation of introduction of COVID-19 vaccines.

In order to ensure vaccine uptake and buy-in, community trust and vaccine confidence play a vital role. As it will be a new vaccine, the communities will have many questions including about the vaccine, its safety, who approved the vaccine, the effectiveness of the vaccine, potential side-effects, and so on. As part of the National deployment and vaccination plan (Chapter 8), FMoH has prepared a vaccine acceptance and demand generation plan with the objective to establish public trust, confidence, acceptance and demand on COVID-19 vaccine and to encourage uptake of vaccines by eligible populations. The strategies and approaches to follow to build public trust and confidence in the newly introduced COVID-19 vaccine includes: community engagement and social mobilization, multi-channel communication including community media, social listening and rumors monitoring, evidence generation, as well as risk/crisis communication.

The AF project is also implementing a component on “Risk Communication and Community Engagement” (RCCE), funded with more than 8m USD, encompassing behavioral and sociocultural risk factors assessment, production of RCCE strategy and training documents, production of communication materials, media and community engagement, and documentation. The plan also seeks to ensure specific strategies to reach the vulnerable groups, such as vulnerable populations.

The MoH is applying lessons learned from the RCCE response to COVID-19 pandemic to rethink the messaging, prioritizing target populations and finding new avenues for information sharing through the Awareness and Community Engagement (ACE) campaign within the national vaccine deployment and vaccination plan. The campaign will be implemented in the following three phases: Pre-Vaccine awareness; COVID-19 vaccine implementation and distribution; and Post-vaccine.

The Vaccine AF will adapt to different situations, project stages and requirements as they develop to disclose information regarding vaccination and other relevant issues. The Ethiopia COVID-19 ERP Stakeholder Engagement Plan (SEP) has been updated for the AF project to ensure inclusion, non-discrimination and transparency and to mitigate risks for exclusion of certain groups or perception of exclusion and inequity.

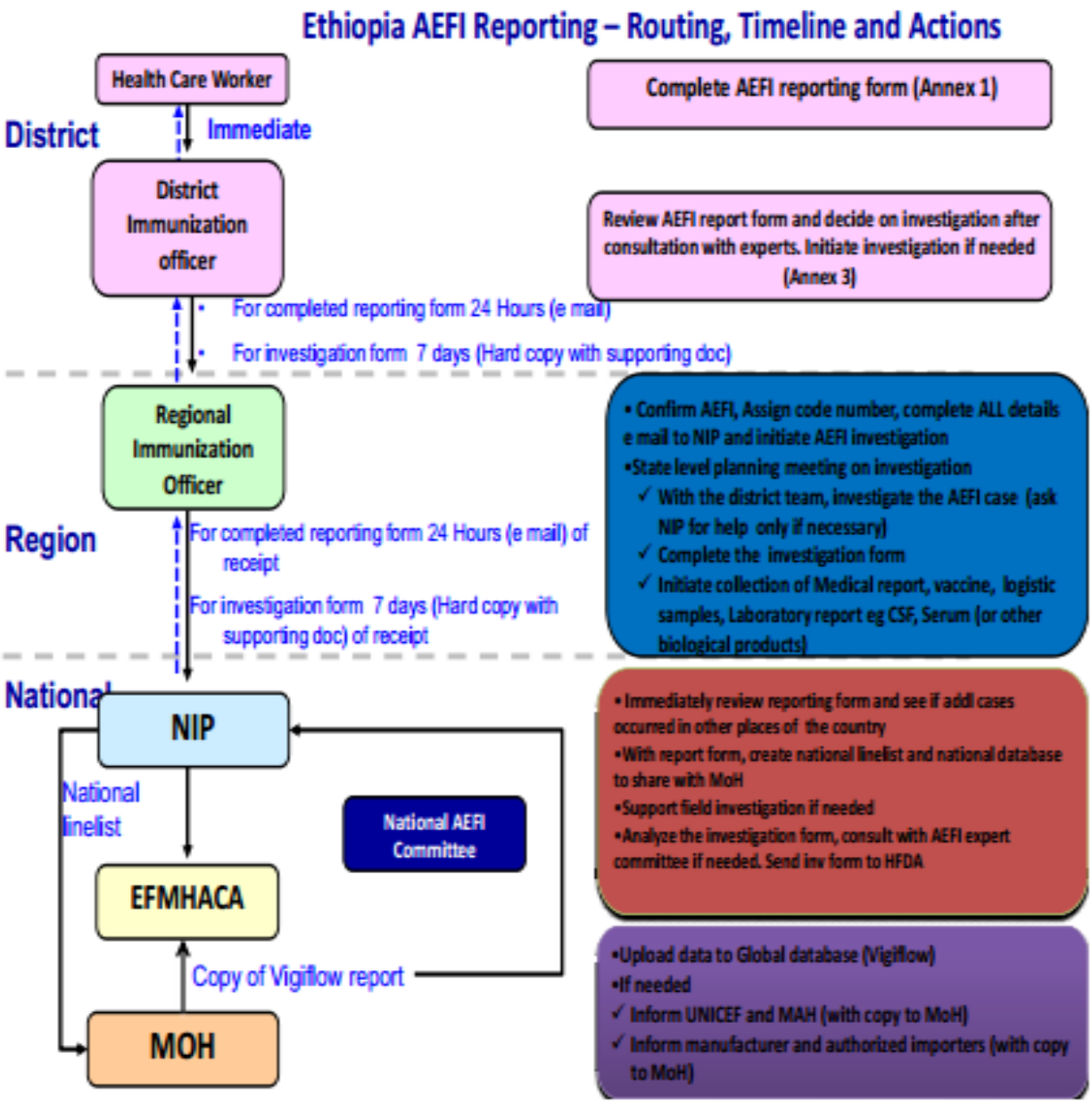
5.1.4 Surveillance of Adverse Events Following Immunization

Ethiopian Food and Drug Authority (EFDA) has the mandate of ensuring that every pharmaceutical product (including vaccines) used in the country is of good quality, effective and safe for the purposes for which it is proposed. EFDA is the responsible National Regulatory Authority (NRA) in Ethiopia. The current system for monitoring the pharmacovigilance activities and Adverse Events Following Immunization (AEFI) is being coordinated by the national pharmacovigilance center at EFDA. There is an independent AEFI causality assessment committee which is formed to investigate and conduct a causality classification of serious AEFIs. Through the existing systems, EFDA monitors closely to ensure that reported adverse events are investigated and managed appropriately. Robust AEFI identification, reporting, investigation and response requires engagement of different stakeholders, including MoH, EFDA, NIP, national pharmacovigilance center, NITAG, health care providers, vaccine manufacturers and beneficiaries. The National Immunization Program (NIP) has a structure link between the federal level to the district level, as well as healthcare facility level which facilitates AEFI reporting during routine and campaign immunization programs. EFDA and NIP are primarily responsible for collecting vaccine safety data from districts (woredas) for further regulatory actions.

The WHO, under the guidance of the Global Advisory Committee on Vaccine Safety, has developed the COVID-19 Vaccines Safety Surveillance Manual in preparation for vaccine introduction, which provides relevant preparedness guidance prior to, during and after

COVID-19 vaccine introduction for global, regional and national staff of immunization programmes, regulatory authorities, partners, pharmacovigilance centres as well as vaccine manufacturers and vaccine suppliers. In the Ethiopia context, the routine passive safety surveillance system will be one of the systems to be followed for vaccination safety surveillance systems. This surveillance system is based on the detection of AEFIs by the vaccine recipients, parents of immunized infants and children, health care workers and staff in immunization or health care facilities and reporting them to the federal level (EFDA and NIP) from the periphery. In order to enhance the surveillance and follow up actions, health care professionals will complete the standardized COVID-19 AEFI form for any suspected AEFI event and send the report to the next level using the fastest available means possible or directly to EFDA via the e-reporting system or Medsafety application. The woreda /district immunization officer will be responsible for ensuring the appropriate investigation, reporting and follow up actions. The reporting route and time line is indicated in Figure ~~1~~ 3 below.

Figure 3 AEFI reporting framework and timeline



5.1.5 Use of military or security personnel

For storage of vaccines within the EPSA system, there are security guards at each store. People coming in and out of the stores are inspected. At the central stores, in addition to security guards, CCTV cameras are installed. There are standard procedures to be followed by security guards while performing their tasks. The stores are reviewed for meeting required conditions to store vaccines. There will be no special escort during transportation of vaccines. Transportation will not be made at night to avoid risks (insurance policy also does not allow).

The same procedures are applied at the woreda and health facilities. EPSA should ensure adequate physical safeguard always exists at all stores.

For areas with security problems, the government intends to use security forces to secure the vaccines. Discussion is still undergoing on how to strengthen the safeguard of vaccines in other security unstable areas of the country. A COVID-19 vaccine deployment specific micro plan is under development in Tigray region and other areas with security challenges. The micro plan identifies how the priority target populations will be reached in areas of challenging security context including priority groups in the IDP camps. The MoH is working with humanitarian organizations through the HPN to use a combination of vaccine deployment, integrated public health services, and humanitarian organizations. The MOH has also acknowledged that, based on the evolving context, security forces may provide their support to protect the transportation of COVID19 vaccines and supplies in Tigray region and other areas where there are security challenges.

5.2 Construction stage

Component 4 includes an activity on refurbishing and equipping a Project COVID-19 Vaccine laboratory under the Ethiopian Food and Drug Administration (EFDA) which is also anticipated to entail limited E&S risks during construction. The refurbishment and equipping activities may involve making some modifications to the existing buildings to suite for the intended vaccine laboratory purposes. On the other side, Ethiopia will be providing the vaccines at fixed posts at existing static and outreach sites. In addition to these, however, other feasible modes of delivery will be designed to reach some special target groups, among which can include establishing temporary vaccination posts or mobile teams in nearby areas. As a result the following environmental risks are anticipated to occur from the associated construction activities.

5.2.1 Dust and exhaust emissions

Large quantities of dust will be generated during demolition works to be carried for building modification. Particulate matter pollution is likely to occur during demolition and transportation of the construction waste. There is possibility of suspended and settleable particles affecting the site workers, office staff in adjacent buildings, and the surrounding

neighbors' health. Exhaust emissions are most likely to be generated during the demolition period by the various machinery and equipment to be used as well as motor vehicles used for waste hauling. Mitigation measures for dust and exhaust emissions

- The demolition site must be covered and fenced off to reduce dust emissions.
- Dust emission during demolition waste hauling must be minimized through strict enforcement of onsite speed controls as well as limiting unnecessary traffic within the project site.

5.2.2 Noise and vibration pollution

The construction activities such as demolition, building modification and refurbishment including installation of new equipment works will lead to significant deterioration of the acoustic environment within the subproject site and the surrounding areas. This will be as a result of the noise and vibration that will be experienced from the chiseling, drilling etc. works that will frequently take place during demolishing of the buildings, refurbishment and equipment installation. Mitigation measures for noise and vibration pollution

- Noise and vibration must be minimized in the project site and surrounding areas through sensitization of construction truck drivers to switch off vehicle engines while offloading materials, avoid honking especially when passing through silent zone areas such as hospitals, health centers, schools, churches and residential areas.
- Machineries must be kept in good condition e.g. greasing to reduce noise generation from friction of movable parts.
- All generators and heavy duty equipment must be insulated or placed in enclosures to minimize ambient noise levels.

5.2.3 Solid waste generation

Demolition for modification of the buildings and related infrastructure will result in appreciable quantities of solid waste. The waste will contain the materials used in its construction including concrete, metal, wood and glass. Although demolition waste is generally considered as less harmful to the environment since it is composed of inert materials, there is growing evidence that large quantities of such waste may lead to release of certain chemicals into the environment. Some demolition waste materials such as paints and adhesives could contain hazardous pigment substances, while other waste materials including

metal cuttings, door and window materials could be salvaged for recycling. The rubble of the demolition waste consisting of the painted surfaces of the buildings can have hazardous natures and adversely affect the environment and will need to be separated from other general wastes and disposed properly.

The following mitigation measures must be followed to avoid or reduce adverse construction and demolition wastes impacts during refurbishment and building modification/construction phase;

- Use of construction materials containing recyclable content when possible and in accordance with accepted standards.
- Provide solid waste collection and segregation facilities at appropriate location of the subproject site.
- properly segregate and dispose wastes to encourage reuse and recycling of some useful waste materials
- Do not mix hazardous wastes with other waste generated and must be managed as per hazardous waste management and control proclamation.
- The contractor and subproject administration must work together to facilitate proper waste handling and disposal from the site. All solid wastes must be taken to an approved disposal site or landfill.
- As much as possible demolition wastes must be recycled, reused or sold to third parties to ensure that materials that would otherwise be disposed of as waste are diverted for productive uses
- Construction wastes should be recycled or reused as much as possible to ensure that materials that would otherwise be disposed of as waste are diverted for productive uses.
- Materials that cannot be reused or recycled must be disposed of appropriately to a licensed and designated disposal site.

In this regard, the subproject proponent must be committed to ensure those construction materials left over at the end of construction will be used in other projects rather than being disposed off. Some of the waste can be sold or donated or recycled/reused by construction companies, local community groups, institutions and individual residents or homeowners.

- During the entire construction phase, the contractor and the proponent must ensure that the waste is disposed off according to waste management laws, and regulations.

- Purchase of perishable construction materials such as paints should be incrementally done to ensure reduced spoilage of unused materials.

5.2.4 Workers coming from infected areas

COVID-19 infection may be spread by workers coming from infected areas, co-workers becoming infected and workers introducing infection into community or general public. Mitigation measures to prevent spread of infection include, among others, the following:

- Visitors to sites should be curtailed unless essential and on critical-business such as delivery drivers, outside maintenance, or repairs, welfare facilities which need to be provided.
- Introduce staggered start and finish times to reduce congestion and contact.
- Log all visitors to site.
- Remove or disable entry systems that require skin contact, e.g., fingerprint scanners.
- Promote good hygiene, wash or clean hands before entering or leaving premises. Provide the necessary facilities to do this, warm water, soap or hand sanitizer.
- Monitor site access points to enable social distancing – you may need to change the number of access points, either increase to reduce congestion or decrease to enable monitoring.
- Drivers should remain in their vehicles if the load will allow it and must wash or clean their hands before unloading goods and materials.
- There should be no more than 50 people in the same space in any circumstance.
- Workers must maintain a safe working distance of at least 2 meter between each other (unless it is unavoidable).
- Tasks are to be rearranged to enable them to be done by one person or a small number of persons without compromising safety measures.
- Wherever possible, sharing of tools or equipment is highly discouraged.
- Sanitation measures should be applied to the use of tools and equipment regularly every day. Clean and disinfect points of contact on the equipment and store them in a safe location.
- Reusable masks should not be shared by workers. These masks should be washed with soap and water every day after use.
- Advance procurement of preventive equipment, such as soap, surgical masks, tissues, and hand sanitizers, is encouraged.

MoH will ensure that outreach and temporary vaccination posts adhere to COVID-19 requirements for IPC medical personnel and other workers at these facilities.

5.2.5 Occupational Health and Safety (OHS) risks

Improper work procedures during civil works can cause OHS risks on site workers, health care providers and supportive staff or persons with disabilities. The following are among the mitigation measures:

- Develop an Occupational Health and Safety plan, which aims to avoid, minimize and mitigate the risk of workplace accidents. This would include identifying potential risks and identifying safe working practices, using only trained workers, using safe machinery and equipment and providing necessary personal protective equipment (PPE).
- Comply with all national and good practice regulations regarding workers' safety.
- Prepare and implement a simple action plan to cope with risk and emergency (e.g., fire, earthquake, floods, COVID-19 outbreak).
- Provide minimum required training or orientation on occupational safety regulations and use of personal protective equipment; and
- The contractor(s) shall provide safety measures as appropriate during works such as fire extinguishers, first aid kits, restricted access zones, warning signs, overhead protection against falling debris, lighting system to protect hospital staff and patients against construction risks.

5.2.6 Traffic hazards

Lack of traffic and road safety procedures can lead to traffic accidents caused by moving machinery and equipment. Measures to prevent traffic accidents includes:

- Collaboration with local communities and responsible authorities to improve signage, visibility and overall safety of roads, particularly along stretches located near schools or other locations where children may be present.
- Minimizing pedestrian interaction with construction vehicles
- Collaborating with local communities on awareness raising about traffic and pedestrian safety (e.g. school education campaigns)
- Employing safe traffic control measures, including road signs and flag persons to warn of dangerous conditions

- Locating associated facilities such as worker camps close to project sites and arranging worker bus transport to minimizing external traffic
- Using locally sourced materials, whenever possible, to minimize transport distances.

Other mitigation measures may include:

- Only experience and trained drivers should be allowed to drive project vehicles.
- Vehicles should be checked and maintained regularly.
- Minimize activity during rush hours.

5.2.7 Gender Based Violence, Sexual Exploitation and Abuse and Sexual Harassment issues and risks

These concerns are expected on vulnerable worker women at the isolation, quarantine and treatment centers and vaccination sites/facilities. On the other hand, quarantine measures and fears over contracting the virus, and as well as restriction of movement, school closures, social isolation, lost jobs, among others, may exacerbate household tension, thus increase this type of violence. Also, young worker females may be at risk of being involved in misconduct behaviours, while engaged in the project. Mitigation measures would include: preparing awareness materials that would guide on how to deal with anxiety and stress and connect with possible support organizations; ensure mental health facilities are well-resourced and support NGOs in increasing their services, as well as dedicating hotlines and appropriate reporting mechanisms; apply ethics and professional code of conduct and provide gender-sensitive infrastructure; and strengthen workers' respect to local cultures through engaging them in community interaction trainings.

Under the parent project, the GoE has produced training and communication materials and distributed for healthcare providers and other workers in health facilities including isolation and quarantine sites. It has also prepared **Covid-19** focused operating procedures and tools, and monitor their use and adherence at these facilities. The project will continue to include messages related to GBV and SH, as well as GBV referral services, which, including legal protection and hotlines, are being made available free of charge; where there are gaps, the MoH and its regional bureau counterparts will provide the necessary resources to strengthen it. The contractors will maintain labour relations with local communities through a code of conduct (CoC), which commits all persons engaged by the contractor, including sub-contractors and suppliers, to acceptable standards of behaviour. The CoC shall include sanctions for noncompliance, including non-compliance with specific policies related to gender-based violence, sexual exploitation and sexual harassment (e.g., termination).

5.2.8 Temporary disruption of healthcare services

Modifications of buildings in which medical services are provided may entail moving patients or equipment from one area or room to another. This may cause temporary disruption in delivery of health services to patients at facilities under renovation. Temporary rearrangement of service areas can have the undesirable consequence of slowing down emergency services or cause inability among health workers to efficiently offer necessary treatment for visiting patients. Movement of equipment may cause its damage. mitigation measures to prevent and minimize such risks includes;

- ✓ Careful planning and phasing of renovation and refurbishment works to avoid or minimize disruption or slowing of services.

5.2.9 Cultural heritage

As the refurbishment and/or erection of temporary vaccination posts are expected to be carried in existing facilities, civil works to be carried are expected to be minor with low likely impact on cultural heritage. However, as a precautionary measure, Chance-find Procedures (see sample in Annex VI) will be included in civil works contracts requiring contractors to stop construction if cultural heritage phenomena are encountered during refurbishment, or erection of temporary vaccination posts activities in order to coordinate with the relevant mandated authority for the salvaging, restoration or other appropriate action of such cultural heritage. Although no major civil works are planned for vaccination activities, the project GMU environmental specialist will ensure that an appropriate clause is included in all civil works contracts as a precautionary measure under the Vaccine AF.

5.2.10 Water pollution and temporary loss of utility services

Minor civil works related to onsite waste management facilities, including temporary storage, incinerator, sewerage and/or wastewater treatment works can cause water and soil pollution from construction wastes as well as on-site make shift toilets. Civil works can also cause temporary loss of access to services such as water and electricity. The E & S focal persons and supervising engineer will need to ensure that contractors collect and dispose wastes in designated disposal sites as required by the Local Authority and provide appropriate and approved temporary toilets for both males and females.

5.2.11 Risk of increased transmission of STDs including HIV/AIDS

Minor civil works for refurbishment and erection of temporary vaccination posts would engage some laborers and related workers at site. The following mitigation measures are suggested to avoid and minimize the spread STDs that may arise during interactions of the local communities with project workers:

- Sensitization and health awareness campaigns to all involved in the project including service providers.
- Integrate monitoring of HIV/AIDS preventive activities as part of the construction supervision. Basic knowledge, attitude and practices are among the parameters to be monitored, and particularly on provision of condoms, status testing and use of ARVs, as well as sexual health and rights.
- Develop appropriate training on potential spread and awareness materials for Information, Education and sensitization of workers during project construction phase.

5.2.11 Fire risk and chemical spill and other toxicity accidents

Lack of appropriate emergency preparedness and response plans can result in accidents such as fire, chemical spills and other toxic substance releases causing danger to humans and to the environment. There will be a need to have arranged for the preparation of an Emergency Response Plan for containment of fire accident and an emergency response plan for containment of chemical spill and toxic substance release during the parent project investment activities. The Emergency Response Plan would be operationalized at recipient HCFs of project investments and will be applied for Vaccine AF activities.

5.2.12 HCF INFECTION CONTROL AND WASTE MANAGEMENT PLAN RISKS

Inadequate or flawed planning for infection control and waste management may result in infection spread due to inadequate hand hygiene and respiratory hygiene during COVID-19 triage, early recognition and source control. The project Environmental Specialist was to conduct screening of each of the participating HCFs and arrange the preparation and implementation of an Infection Control and Waste Management Plan (ICWMP) according the template provided in Annex IV of this ESMF. This measure will be applied to the

designated vaccination HCF sites under the Vaccine AF. Due reference to the WHO interim guidance for "IPC during health care when COVID-19 is suspected" is available at: https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125.

5.3 Operational Stage (Including Vaccination Campaigns)

The operational stage activities are anticipated to generate various categories of medical waste which ranges from general infectious waste, pathological waste, chemical waste (laboratory reagents) and sharps. Moreover the EHS risks associated with the COVID-19 vaccination campaign activities are anticipated to include Adverse Events Following Immunization (AEFIs) which may be caused by the vaccine or by an error in the administration or handling of the vaccine as well as unsafe injection practices that can result in disease transmission. The cold chain infrastructure is also expected to be extensively utilized for storage and distribution during vaccine deployment and inoculation. These and other potential adverse EHS risks likely to occur during the operational stage of the AF project implementation are further discussed and mitigation actions outlined as follows.

5.3.1 EHS risks during COVID-19 vaccination campaign activities

5.3.1.1 Adverse Events Following Immunization (AEFIs) which may be caused by the vaccine or by an error in the administration or handling of the vaccine

The Ethiopian Food and Drug Authority (EFDA) is the responsible National Regulatory Authority (NRA) in Ethiopia. EFDA has the mandate of ensuring that every pharmaceutical product (including vaccines) used in the country is of good quality, effective and safe for the purposes for which it is proposed. The current system for monitoring the pharmacovigilance activities and Adverse Events Following Immunization (AEFI) is being coordinated by the national pharmacovigilance center at EFDA. There is an independent AEFI causality assessment committee which is formed to investigate and conduct a causality classification of serious AEFIs. Through the existing systems, EFDA monitors closely to ensure that reported adverse events are investigated and managed appropriately. The National Immunization Program (NIP) has a structure link between the federal level to the district level, as well as healthcare facility level which facilitates AEFI reporting during routine and campaign immunization programs. AEFIs are primarily detected by healthcare professionals who administer vaccines. EFDA and NIP is primarily responsible for collecting vaccine safety data from districts (woredas) for further regulatory actions.

The global deployment and administration of many COVID-19 vaccines may involve multiple vaccine presentations, from different manufacturers, potentially being delivered through different novel platforms. Due to the variety of vaccine platforms being developed, it is likely that more than one vaccine type will be used simultaneously or sequentially in the same setting. The unprecedented rapid development of the COVID-19 vaccines on novel platforms followed by their rapid deployment on a mass scale poses unique challenges for monitoring vaccine safety. Therefore, improved coordination and the incorporation of new methodologies and technologies into current vaccine safety surveillance systems will be crucial more than ever. This will require extraordinary national, regional and global efforts to ensure real-time monitoring, knowledge sharing and communication mechanisms to warrant that any safety concern can be identified early and investigated in a timely manner, safeguarding the health of target populations and, ultimately, maintain trust in the immunization programmes and the health systems. Robust AEFI identification, reporting, investigation and response requires engagement of different stakeholders, including MoH, EFDA, NIP, national pharmacovigilance center, NITAG, health care providers, vaccine manufacturers and beneficiaries.

The National Deployment and Vaccination Plan comprehensively addresses requirements for vaccine safety monitoring, management of AEFI events following immunization and injection safety. The plan elaborates interventions that include integrating COVID-19 vaccine into the existing AEFI surveillance system that entail the enhancement of national and subnational capacity to build and sustain public confidence in COVID-19 vaccination and immunization in general. The COVID-19 vaccination safety surveillance systems to be followed in the Ethiopian context is described in section 5.1.4: Surveillance of Adverse Events Following Immunization.

MoH will comply with the COVID-19 Vaccine Safety Monitoring guidelines provided in the Centers for Disease Control and Prevention (CDC) COVID-19 Vaccination Program (2020) as applicable in Ethiopian law. The guidelines cover data requirements for COVID-19 vaccine administration (including comorbidity status, serology results and vaccination refusal); countermeasures and requirements for clinical evaluation of indications and contraindications of vaccines, and the recognition and treatment of emergency reactions to

vaccines. The guidelines are available online at: https://www.cdc.gov/vaccines/imz-managers/downloads/COVID-19-Vaccination-Program-Interim_Playbook.pdf

5.3.1.2 Unsafe injection practices that can result in disease transmission:

The National Deployment and Vaccination Plan indicates that healthcare providers were trained on injection safety, supplies of injection equipment and safety boxes were improved and modern incinerators were constructed for most health facilities. The plan proposes that new COVID-19 vaccination technologies may be introduced combined with the need to vaccinate target populations that differ from those that immunization programmers are most familiar with, may further increase the risk of human errors.

MoH will comply with the national injection safety policy and the CDC COVID-19 Vaccination Program (2020) mentioned above. MoH and participating HCFs will further adhere to the Infection Control and Waste Management Plan (ICWMP) in Annex IV of this ESMF regarding safe handling and disposal of injection waste. Mitigation measures for safe injection practice for COVID-19 vaccination activities are elaborated in the preceding section 5.3.1.2 above under operational stage requirements.

5.3.2 Inappropriate collection, transportation and disposal of Healthcare Waste:

During the operational phase of the AF project, it is anticipated that solid and liquid wastes are generated on a daily basis from HCFs administering vaccinations, Point of Entry, Quarantine, and Isolation Centers. Mainly the wastes to be generated will be domestic waste and infectious/hazardous waste. Since laboratory and vaccination centers activities involve certain medical examinations and also there will be a need for usage of different sorts of chemicals or reagents, it can be predicted that different types of hazardous wastes would be generated. Therefore, improper and inadequate waste decontamination and disposal can cause public health risks due to environmental pollution (i.e. impaired air quality, contamination of water courses) and infections when people rummage through improperly dumped infectious waste.

During their operation, health centers will generate medical waste through several clinical activities including; sample collection from COVID-19 suspected patients, laboratory practices and procedures (performing and handling of specimen and chemicals), blood transfusion procedures and from activities in isolation and quarantine facilities; which need to be disposed of in an appropriate medical waste disposal facility. Improper disposal of medical

waste would have environmental and public health impacts: for example, open burning and incineration of medical wastes can result in emission of dioxins, furans and particulate matter, and result in unacceptable cancer risks under medium (two hours per week) or higher usage.

The National MOH guideline for Healthcare waste management classifies Infectious waste to consist of the following: sharps (needles, scalpels, etc.), laboratory cultures and stocks, blood and blood products, pathological wastes, and wastes generated from patients in isolation because they are known to have infectious diseases. Medical wastes can also include chemicals and other hazardous materials used in patient diagnosis and treatment. These constitute a grave risk, if they are not properly handled, treated or disposed and otherwise are allowed to get mixed with other municipal waste. The types of healthcare waste expected from the HCFs, Point of Entry, Quarantine, and treatment and Isolation Centers will be sharps, blood and blood products, pathological wastes, liquid hazardous/infectious, chemical waste and nonhazardous wastes. For expected wastes from HCFs, Point of Entry, Quarantine, and Treatment and Isolation Centers see below table 3.

Improper waste collection and accumulation of waste can be cause of infection and may lead to occupational hazard. It is therefore necessary that collection of waste would be made at least once in 24 hours, and it would be done in such a way to minimize nuisance of smell and dust during collection and all the waste collected must be carried away from the storage site to an approved disposal point. In addition laboratory and centers would have standard operation and decontamination procedure manuals and clearly displayed at appropriate point(s) with the facility.

Table 3: Waste expected from Point of Entry, Quarantine, and Treatment and Isolation Centers

Type of waste	**Waste description**
Biohazard solid waste	Items contaminated with blood and body fluids, including cotton, infected blood, patient samples and specimens
Microbiology Waste	Cultures; stocks and microorganisms; dishes and devices used for culture
Pathological waste	Human tissues, organs or fluids; body parts; unused blood products.
Sharps	Needles; syringes; scalpels; blades; glass, etc.
Disposables	Disposables other than sharps, e.g. Gloves, valves, and any other infected plastics
Liquid Waste (hazards &infectious)	Waste generated in the laboratories hazardous and infectious liquid
Chemical Waste	Chemicals used in the production of biological, laboratory reagents; film developer; disinfectants that are expired or no longer needed; solvents; outdated, contaminated and discarded chemicals

As the Impact of Improper Healthcare Waste Management is high in staff, the community and environment, appropriate technologies and methods would be used to treat and dispose risks due to healthcare waste. The HCFs, laboratories, Point of Entry, Isolation and Treatment Centres would adhere to the application of the following guidelines to minimize impact emanating from healthcare waste. Mitigation measures for impact of improper Healthcare Waste Management provided here below for the parent project that shall also be applied to the Vaccine AF are sourced from the WBG EHS Guidelines for Healthcare Facilities. Other measures provided in Annex IV (ICWMP).

- Health care facilities should establish, operate and maintain a health care waste management system (HWMS) adequate for the scale and type of activities and identified hazards.
- Each health facility should prepare (prior to the start of operations under the project) an Infection Control and Waste Management Plan (ICWMP) based on the template provided in Annex IV and in accordance with national regulations.
- Waste should be identified and segregated at the point of generation. Non-hazardous waste, such as paper and cardboard, glass, aluminum and plastic, should be collected separately and recycled. Food waste should be segregated and composted. Infectious and / or hazardous wastes should be identified and segregated according to its category using a color-coded system. Collection bins should be placed at specific points or at strategic locations for dumping the medical wastes and other waste types, hence segregating the medical waste from other wastes. The bins should be emptied regularly to licensed collection centers or disposal sites to avoid soil and groundwater contamination.
- Prevention and minimization of the production of waste (integrating systems and practices to avoid the creation of waste into facility design and management and equipment and consumables purchasing).
- Reuse or recycling of wastes to the degree feasible, employing:
    - ✓ Source reduction measures such as purchasing restrictions to ensure the selection of methods or supplies that are less wasteful or generate less health care waste;

- ✓ Recyclable products (use of materials that may be recycled either on- or off-site);
- ✓ Good management practices rigorously applied to purchase and control of chemicals and pharmaceuticals; and
- ✓ Segregation of wastes into different categories—for control of quantities and disposal methods.

- Seal and replace waste bags and containers when they are approximately three quarters full. Full bags and containers should be replaced immediately.
- Identify and label waste bags and containers properly prior to removal.
- Transport waste to storage areas on designated trolleys / carts, which should be cleaned and disinfected regularly.
- All healthcare waste generated during care of COVID-19 patients should be treated as infectious waste and managed in accordance to WHO guidelines on Water Sanitation, Hygiene and Waste Management for COVID-19.
- Instructions on how to handle the infectious waste from isolation and treatment centers should be made available to the waste handlers in all health facilities.
- Ensure safety and health of the health care waste handlers through provision of appropriate PPEs, vaccination against Hepatitis B and tetanus as well as provision of post-exposure prophylaxis (PEP).
- Waste storage areas should be located within the facility and sized to the quantities of waste generated, with the following design considerations:
  - ✓ Hard, impermeable floor with drainage, and designed for cleaning / disinfection with available water supply;
  - ✓ Secured by locks with restricted access;
  - ✓ Designed for access and regular cleaning by authorized cleaning staff and vehicles;
  - ✓ Protected from sun, and inaccessible to animals / rodents;
  - ✓ Equipped with appropriate lighting and ventilation;
  - ✓ Segregated from food supplies and preparation areas; and
  - ✓ Equipped with supplies of protective clothing, and spare bags / containers.
- Unless refrigerated storage is possible, storage times between generation and treatment of waste should not exceed 48 hours during cool season, 24 hours during hot season.

- Store mercury separately in sealed and impermeable containers in a secure location.
- Store cytotoxic waste separately from other waste in a secure location.
- Store radioactive waste in containers to limit dispersion, and secure behind lead shields.
- Transport waste destined for off-site facilities according to the guidelines for transport of hazardous wastes / dangerous goods in the General EHS Guidelines.
- Transport packaging for infectious waste should include an inner, watertight layer of metal or plastic with a leak-proof seal. Outer packaging should be of adequate strength and capacity for the specific type and volume of waste.
- Packaging containers for sharps should be puncture-proof.
- Waste should be labeled appropriately, noting the substance class, packaging symbol (e.g. infectious waste, radioactive waste), waste category, mass / volume, place of origin within hospital, and final destination.
- Transport vehicles should be dedicated to waste and the vehicle compartments carrying waste sealed.
- Facilities receiving hazardous health care waste should have all applicable permits and capacity to handle specific types of health care waste.
- Health care waste generated in the management of COVID-19 patient is considered infectious wastes and should be treated in the following methods and technologies sequentially: chemical disinfection, wet thermal treatment, inertization, microwave irradiation, incineration and landfill disposal.
- Customized training for the staff handling and management health care wastes contaminated with COVID-19 should include:
    - The use of appropriate / full PPEs (N95 respirators, apron, heavy duty gloves, eye protection, boots and long sleeved gown);
    - Hand hygiene practices;
    - Waste segregation strategies and clean up procedures;
    - On-site Handling, Collection, Transport and Storage;
    - Exposure to COVID-19 infections and diseases transmission;
    - Exposure to radiation; and
    - Fire safety measures.

- Ensure that each HCF minimizes its waste generation (all classes of wastes) to the barest possible minimum.
- Follow waste collection guideline that is extremely important particularly to avoid over spilling of waste out of collection containers.
- Infectious waste would be contained from its point of origin to the point at which it is treated and rendered no longer infectious.
- All waste bags or containers would be labelled with basic information in the local language of the area where the HCF is located and/or in English.
- Healthcare Waste should be treated according to Ethiopia Healthcare Waste Management National Guideline 2008 which categorizes HCW in Ethiopia into nine classes. The treatment are described at section 6.9 - 6.10 of the guideline for waste treatment and disposal.
- Healthcare waste should be disposed after treatment. The types of final disposal methods are: conventional sewer system for discharge of treated liquids and grounded solids; or landfill disposal of treated solids and incinerator ash.
- The Commission responsible for environment and MoH would ensure that only treated infectious wastes are buried in landfills.
- Burial sites would be fenced to prevent access by community members or animals. Burial would not be used in areas with high water tables. The bottom of the pit would be at least 1.5 meters higher than the groundwater level.
- Facilities would secure the services of reputable waste handlers to ensure, to the extent possible, that final disposal of health care waste is performed according to applicable federal and local regulations.

MoH will comply with the national policy on injection safety policy and the CDC COVID-19 Vaccination Program (2020) on minimization of potential waste of vaccine, constituent products, or ancillary supplies. MoH will further adhere to the Infection Control and Waste Management Plan (ICWMP) in Annex IV of this ESMF regarding safe handling and disposal of injection and ancillary waste.

5.3.3 Inadequate cleaning risks in HCF operation

Inadequate cleaning of equipment, materials and disinfectant and inadequate training of cleaning staff for COVID-19 requirements may result in infection propagation in HCF operation. The HCF will adopt the following mitigation measures for the Vaccine AF:

- Ensure that cleaning chemicals do not introduce a product safety hazard.
- Provide cleaning staff with adequate cleaning equipment, materials and disinfectants.
- Store and use disinfectants in a responsible and appropriate manner according to the label.
- Do not mix bleach or other cleaning and disinfection products. This can cause fumes that could be very dangerous to breathe in.
- Review general cleaning systems, training cleaning staff on appropriate cleaning procedures and appropriate frequency in high use or high-risk areas.
- Enhanced and regular cleaning of touch points is required
- 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 screens) and boots or closed work shoes. If appropriate PPE is not available, provide best available alternatives.
- Train cleaners in proper hygiene (including hand washing) prior to, during and after conducting cleaning activities; how to safely use PPE (where required); in waste control (including for used PPE and cleaning materials).
- The people cleaning should always wear gloves appropriate for the chemicals being used when they are cleaning and disinfecting, and they may need additional PPE based on the setting and product.
- Rubbish collection and storage points should be increased and emptied regularly throughout and at the end of each day.
- Refer to WHO Interim guidance for WASH waste management for the COVID-19 virus available at: https://www.who.int/publications-detail/water-sanitation-hygiene-and-waste-management-for-the-covid-19-virus-interim-guidance.

5.3.4 HCF wastewater and fecal waste

Isolation and quarantine facilities are associated with increased volume of wastewater and excreta. Liquid contaminated waste (e.g. pathological sample, blood, feces, urine, other body fluids and contaminated fluid) requires special handling, as it may pose an infectious risk to healthcare workers with contact or handle the waste. There is no evidence to date that the COVID-19 virus has been transmitted via sewerage systems with or without wastewater treatment. Mitigation measures implemented under the parent project and to be continued under the Vaccine AF:

- Inorganic waste should be given to the authorized vendor for free of cost for recycling;
- Minimization and safe storage of potential sources of liquid wastes.
- Install a sewer system to collect liquid waste from around a facility and carry it below ground to a central location for treatment.
- Liquid waste originating from the laboratory should pass through a disinfection process before directing to the general sewer line according to WHO-Laboratory biosafety guidance related to COVID-19 available at https://apps.who.int/iris/handle/10665/332076
- People with suspected or confirmed COVID-19 disease should be provided with their own flush toilet or latrine.
- Where this is not possible, patients sharing the same ward should have access to toilets that are not used by patients in other wards.
- Each toilet cubicle should have 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 for COVID-19 patients, then the toilets they share with other non-COVID-19 patients should be cleaned and using a disinfectant at least twice daily by a trained cleaner wearing PPE (impermeable gown, of if not available, an apron, heavy-duty gloves, boots, mask and goggles or a face shield).
- Health-care staff should have toilet facilities that are separate from those used by all patients.
- A disinfection step may be considered if existing wastewater treatment system is not optimized to remove viruses.
- Make sure all containers, drums and tanks that are used for storage are in good condition;
- Take all precautionary measures when handling and storing fuels and lubricants, avoiding environmental pollution;

5.3.5 Risks associated with on-site healthcare waste treatment and disposal including vaccination sites

On-site healthcare waste treatment and disposal involving incineration that may include chemicals containing Volatile Organic Compounds (VOCs) may pause health risks and pollution. The E & S focal persons at beneficiary HCFs will ensure that septic and other systems recommended by WBG EHS guideline and by WHO Interim guidance for WASH waste management for the COVID-19 virus are duly considered in HCF infection control and waste management plans. Appropriate waste drainage systems leading to septic tank or public sewerage facilities or treatment technologies such as activated sludge and sanitary facilities will be used, if available in the local municipality. These measures will be included in the ESMP and ICWMP (according to Annex III and Annex IV).

5.3.6 Risks associated with waste (including vaccine waste) transportation, off-site treatment and disposal

Waste transportation, off-site treatment and disposal can cause transmission risk of COVID-19 virus. There is a risk associated with traffic and road safety hazard during operational phase due to use of ambulances, transportation of samples to the laboratory and transportation of highly infectious medical waste from facilities with no HCW treatment and disposal facilities. Appropriate facilities and methods as stipulated in the WBG EHS guideline for Health Care Facilities and WHO interim guidance on WASH for the COVID-19 virus will be deployed to collect, and transport wastes, treat and dispose them using appropriate technologies and disposal facilities (incineration as a last alternative). Recommended mitigation measures include:

- The relevant staff should be trained on pre-hospital emergency care, infection prevention and control measures, how to handle samples in transit, healthcare waste and spillage management in case of an accident and provided with the required PPE,
- Vehicles used as ambulances or for transporting any hazardous material and medical waste should be road worthy, labelled to indicate its load and its payload secured to minimize risk of accidents and spillage,
- The project shall use well-equipped ambulances; ensure they are outfitted with audible back-up alarms as well as with effective communication system for emergency service functions and activities
- Periodic community awareness campaign on traffic,
- Use of competent drivers with defensive driving technics,
- MoH and the respective project beneficiaries (health facilities, referral laboratories) shall regularly inspect vehicle safety and maintain them accordingly, and

- Ambulance drivers should follow guidance on safe emergency driving,
- Vehicles used in transport of samples or healthcare waste should be easy to clean, free of sharp edges and shall be cleaned thoroughly and disinfected after use

5.3.7 Improper clinical care, isolation of suspected cases and follow-up of survivors

The aim of clinical care for COVID-19 patients will be to provide high quality, safe care and individualized patient-centered care in a bio-secure environment to minimize the risk of spreading this disease to other patients or health workers. Clinical care includes medical, nursing, nutritional, rehabilitation, psychosocial care and early childhood care services, disabled persons, children and women, including pregnant and lactating women. If this undertaking is not planned or carried out with due caution, there is a high risk of transmitting COVID-19 infection to healthcare workers or other people in their families.

The onward infection of medical workers or other people due to improper clinical care, isolation of suspected cases and follow-up of survivors would be a negative impact with long-term and irreversible (if death occurred) socio-economic impact will have high significance. Recommended mitigation measures include:

MoH, through the HCF staff shall:

- Improve biosecurity and harmonize care protocols to avoid risk of infections of medical workers and other people;
- Build triage centers in referral hospitals or in health facilities according to the dynamics of COVID-19 pandemic;
- Set up a management system specific to case management structures under the management of MOH (finance, logistics, administration, etc.); and
- Restructure the survivors' follow-up program by fully integrating it into the clinical care.
- In case of blood/bodily fluid exposure:
    i. Persons including HCWs with percutaneous or mucocutaneous exposure to blood, body fluids, secretions, or excretions from a patient with suspected or confirmed infectious disease, should immediately and safely stop any current tasks, and leave the patient care area.
    ii. Safely take off PPE according to the steps in the procedure, in the anteroom.
    iii. Treat affected exposed area:

- wash the affected skin surfaces or the percutaneous injury site with soap and water
- Irrigate mucous membranes (e.g. conjunctiva) with copious amounts of water or an eyewash solution, and not with chlorine solutions or other disinfectants.

iv. Immediately report the incident to the chief of unit, IPC focal point (following hospital exposure procedure) as soon as the HCF staff exist the isolation room/ unit.

v. Exposed persons should be medically evaluated for:
   - infectious disease (ID) (of isolated patient)
   - other potential exposures (e.g., HIV, HCV) if sharp/needle-stick injury.

vi. Exposed persons must receive follow-up care, including:
   - fever monitoring, twice daily period of recording symptoms will depend on the ID
   - Counselling and psychological support.

vii. Immediate consultation with an expert in infectious diseases for any exposed person who develops fever, symptoms after exposure.

viii. If fever appears and other symptoms, isolate HCF staff, and follow procedure for ID suspected until a negative diagnosis is confirmed.

ix. Workers suspected of having infected should be cared for/isolated, and the same recommendations outlined in this document must be applied until a negative diagnosis is confirmed.

x. Conduct contact tracing and follow-up of family, friends, co-workers and other patients, who may have been exposed to COVID-19 virus through close contact with the infected HCW/ staff

5.3.8 COVID-19 infections due to inadequate adherence to OHS

The National Deployment and Vaccination Plan for COVID-19 Vaccine recognizes that training of staff involved in COVID-19 vaccination roll out to be essential to ensure quality and effectiveness of immunization of the target population. COVID-19 Vaccine introduction requires training of EPI managers, EPI focal persons, health care workers, and health extension workers who will be in charge of the vaccination process. In addition, community health workers, HDA and Kebele/Village Volunteers in each kebeles will be trained to support the vaccination, make identification and referral of eligible targets and on the need of subsequent visits to ensure completion of scheduled Vaccination.

The MOH in collaboration with partners has developed a detailed training plan and will implement cascaded training for COVID-19 Vaccine Introduction. A standard comprehensive curriculum with training materials addressing all aspects of COVID-19 vaccination will be customized from WHO training materials and guidelines to country context and printed to serve as training and field guide as the country implements COVID-19 Vaccination.

MoH will comply with the WHO technical guideline for COVID-19 Key considerations for occupational safety and health regarding duties, rights and responsibilities for health and safety at work in the context of COVID-19. OHS risks and impacts and their appropriate measures are elaborated in the proceeding section under Labor Management Procedures.

The MOH should also put an appropriate EHS risk management system in place for proper collection, transportation, and disposal of hazardous medical wastes and for minimization of occupational health and safety risks. It should also establish a functioning institutional/implementation arrangement for management environmental and social risks. To this end, MOH have updated and prepared the present ESMF before effectiveness, which was prepared for the parent project-that could serve as a basis for the identification and management of EHS risks associated with the AF.

5.3.9 HCF operational hazards (including vaccination)

General operation of HCFs can involve vulnerability to spread of infection (especially during a pandemic) physical hazards, electrical and explosion hazards, fire, chemical use, ergonomic and radioactive hazards. Recommended mitigation measures for the HCF operational hazard includes the actions listed below. These measures are further elaborated in Annex III and Annex IV.

- Health facilities should apply pre-vaccination screening that includes for contraindications as elaborated in the National Deployment and Vaccination Plan for COVID-19 Vaccine.
- Health facilities should 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;
  - ✓ Appropriate Health Care Waste Management;

- Health facilities should 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 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,
- Collection of samples, transport of samples and testing of the clinical specimens from patients meeting the suspect case definition should be performed in accordance with WHO interim guidance Laboratory testing for coronavirus disease 2019 (COVID-19) in suspected human cases.
- Tests should be performed in appropriately equipped laboratories (specimen handling for molecular testing requires BSL-2 or equivalent facilities) and by staff trained in the relevant technical and safety procedures.
- All hospitals and laboratories should prepare waste management procedures in accordance with the national requirements that outline waste segregation procedures, on site handling, collection, transport, treatment and disposal, and training of the staff. Refer to the proper sections of the "Ethiopia Health Care Waste Management Plan, 2018" for further detail for further guidance on its preparation.
- 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. Health facilities shall establish and apply good practices line with WHO guidance on water, sanitation and waste management for COVID-19 and National guidelines for Infection Prevention and Control in the healthcare facilities.
- Samples that are potentially infectious materials (PIM) need to be handled and stored as described in WHO 2018 document Guidance to minimize risks for facilities collecting, handling or storing materials potentially infectious for polioviruses (PIM Guidance). Organize and implement medical surveillance which includes medical service and immunization programs;
- Provide health and safety training;
- Adopt and implement safety manuals aligned with OSH guideline and WHO laboratory biosafety manual; WHO technical guideline for COVID-19 Key considerations for occupational safety and health

- Develop and implement safety standards.

5.3.10 Weak Infection Prevention and Control (IPC) measures

Infection prevention and control (IPC) measures and water, sanitation and hygiene (WASH) aim to prevent and control nosocomial (originating in a hospital) and community transmission of COVID-19. The absence of effective IPC and WASH measures would curtail efforts to control COVID-19. This reiterates the importance of precautions such as avoiding handshaking, hand washing with soap and water and Infection prevention and control (IPC) measures and water, sanitation and hygiene (WASH). The absence of effective IPC and WASH measures would curtail efforts to control COVID-19. This reiterates the importance of precautions such as avoiding handshaking, hand washing with soap and water. Main activities in the health facilities shall include the following:

- Health facilities should establish and apply standard precaution including hand hygiene, respiratory hygiene, use of PPE, handling of patient care equipment and soiled linen, environmental cleaning and prevention of needle stick and sharp injuries.
- Health facilities shall ensure provision of safe water, sanitation and hygienic conditions in line with WHO guidance on water, sanitation and waste management for COVID-19 and National guidelines for infection prevention and control of health facilities.
- Strengthen training activities of healthcare providers and IPC supervisors on issues related to COVID-19 (~~see Annex …~~): ensuring triage, early recognition, and source control (isolating patients with suspected COVID-19); applying standard precautions for all patients; implementing empiric additional precautions (droplet and contact and, whenever applicable, airborne precautions) for suspected cases of COVID-19; implementing administrative controls; and using environmental and engineering controls.
- Implement the IPC package that includes standard operating procedures (SOPs), tools, and rapid diagnostic tests.
- Strengthen the IPC / WASH support system in health facilities based on health facility assessments, training supervision with corrective actions, and the establishment of a quality assurance system in close collaboration with the independent monitoring and evaluation team.
- Evaluate and implement WASH infrastructures (improvement of water and sanitation facilities) and services in health facilities.

- Provide health facilities with IPC / WASH inputs (detergents) as needed and monitor their use;
- Ensure the decontamination of health facilities that have received confirmed COVID-19 cases.
- Ensure implementation of the IPC ring approach around each confirmed case of COVID-19.
- Promote preventive medicine; no pregnant women, staff older than 65 or staff with underlying health conditions, should be working in isolation areas, provision of psychosocial support to medical staff and team and any health care workers reporting COVID-19 symptoms should stop work immediately

❖ ***Infection prevention and control in affected communities***

In communities, IPC activities shall be carried out in households and in public places. These include:

- To minimize risk to the communities, each vaccination team should practice on-site waste segregation and implement reverse logistics, where health care waste is taken back to the facility by the vaccination team to be disposed of properly along with other hazardous wastes.
- Empty vials, used syringes and other discarded waste, which are used during the campaign will be managed in safe way at health centers/woreda-level through reverse logistics from campaign sites.
- Ensuring access to water and sanitation in schools and public places;
- Ensuring decontamination of households and public places that have had confirmed COVID-19 cases;
- Providing hygiene kits to households, schools and public places;
- Strengthening the monitoring and evaluation system; and
- Training community leaders in COVID-19 prevention.

5.3.11

Air pollution from Incineration of HCW

Incineration of hospital waste if carried out in inappropriate facilities could result into localized pollution of air with pollutants such as ash, furans and dioxins. Dioxins are known to promote cancers in humans. The downwash of incinerator emissions has potential to degrade indoor air quality of healthcare buildings or those of nearby offsite buildings. The

impact severity associated with this is that the duration of onsite and offsite air pollution would be long-term lasting entire life on incineration units unless the deficient units are either decommissioned or improved. Considering the gravity of potential air pollution on health of patients and nearby communities, this impact will have high significance. Measures should be introduced to screen the sites with incinerators to identify any that are located in a place, which raises the risks of air pollution for sensitive receptors (i.e. too close to the hospital wards, with wind directions towards the hospital or houses, etc). Such "problematic" incinerators should not be used as they are under the project. Single-chamber, drum and brick incinerators will not be used. If small-scale incinerators are used, best practices (such as WBG EHS Guidelines on HCFs) to minimize operational impacts will be applied.

As per the 2020 national CCI data, at 20,798 health facilities, there are 5439 functional incinerators. This will be equivalent with the assumption to have one incinerator per five health facilities. Two waste managers will be deployed in each incineration site, heavy duty gloves and apron protection will be ready for waste disposal managers. The selected incinerators should be regularly inspected and monitored: Healthcare administrators should undertake regular visual inspection of incinerator stack for incidents of downwash and undertake annual monitoring of ambient air quality or a general environmental audit of entire healthcare facility.

The project should contribute to training of incinerator operators as it is important for them to be familiar with basic principles and routine practices. For example, homogenization of waste is crucial to ensure efficient and complete combustion during incineration to avoid generation of dioxins for instance when wet waste batches quench flames and lower combustion temperature below levels at which such pollutants are destroyed.

5.3.12 Aerosol and organic solvent transmission risk of COVID-19 virus

Improper methods of transportation and delivery of specimen (and other infectious material), samples, reagents, pharmaceuticals and medical supplies as well as improper storage and handling may result in aerosol and organic solvent transmission risk of COVID-19 virus.

The HCF staff with support from the AF project E&S staff will ensure that due reference is made to WHO Laboratory biosafety guidance related to COVID-19 for proper handling and storage of infectious materials including specimen and samples. The guide includes use of standard laboratory practice to avoid/minimize release of aerosols and organic solvents to

atmosphere as well as adequate ventilation in laboratories and treatment areas and use of fume hoods if necessarily for chemical processing.

5.3.13 Risks associated with improper use of COVID-19 equipment

Improper use of COVID-19 equipment and other assets pause infection sprea/d risk. Exclusive use of disposable supplies for IPC is appropriate in highly infectious situations and therefore require diligent waste management procedures during screening of potential COVID-19 patients and during pre-triage. The HCF staff with guidance from the E & S focal persons will ensure appropriate handling and management of generated waste at Screening Posts (PoEs) and Centers of Quarantine, at hospital Isolation and Treatments Facilities, Health Centers or other community designated centers.

Due reference will be made to the WHO interim guidance for "Rational use of personal protective equipment (PPE) for coronavirus disease (COVID-19)" available at: https://www.who.int/publications-detail/rational-use-of-personal-protective-equipment-for-coronavirus-disease-(covid-19)-and-considerations-during-severe-shortages.

5.3.14 Standard Operating Procedures (SOPs) for COVID-19 Vaccine Storage and Handling

Planning and coordination of COVID-19 vaccination operations and chain of reporting and management structure includes the activity to develop and disseminate SOPs related to COVID-19 vaccination implementation. The SOPs shall include COVID-19 Vaccine Storage and Handling based on the CDC's Vaccine Storage and Handling Toolkit (February 5, 2021) for vaccine providers as elaborated below and available at: https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf.

5.3.14.1 COVID-19 Vaccination Provider Requirements

All COVID-19 vaccination providers shall implement the following:

- Store and handle COVID-19 vaccines under proper conditions, including maintaining cold chain conditions and chain of custody at all times in accordance with the vaccine package insert, manufacturer guidance, and guidance in this SOPs section.
- Monitor storage unit temperatures at all times, using equipment and practices that comply with guidance in this SOPs section.
- Comply with immunization program guidance for handling temperature excursions.
- Monitor and comply with COVID-19 vaccine expiration dates.

- Preserve all records related to COVID-19 vaccine management for a minimum of three years.
- Comply with national instructions and timelines for disposing of COVID-19 vaccine and diluent, including unused doses.

Emergency Use Authorization (EUA) Storage and Handling Information:

Specific, detailed storage and handling protocols for individual vaccines are provided in manufacturer package inserts for vaccines licensed by the Ethiopian Food and Drug Authority (EFDA). However, because COVID-19 vaccines are currently authorized for use under an EUA, COVID-19 vaccination providers should refer to the EUA Fact Sheet for Healthcare Providers Administering Vaccine and manufacturer information for detailed storage and handling information for each vaccine.

5.3.15 Vaccine Cold Chain

A cold chain is a temperature-controlled supply chain that includes all vaccine-related equipment and procedures. It begins with vaccine manufacturing and ends with vaccine administration. Vaccines must be stored properly from the time they are manufactured until they are administered. Potency is reduced every time a vaccine is exposed to an improper condition. This includes overexposure to heat, cold, or light at any step in the cold chain. Once lost, potency cannot be restored.

An effective cold chain relies on three main elements:

- A well-trained staff
- Reliable storage and temperature monitoring equipment
- Accurate vaccine inventory management

5.3.15.1 Staff and Training

All staff members who receive vaccine deliveries as well as those who handle or administer vaccines should be trained in vaccine-related practices and procedures. As a resource for staff, this SOPs section highlights storage and handling best practices to help protect the vaccine supply complementing Ethiopia’s specific requirements for storage and handling training, policies, and procedures. All facilities must designate a primary vaccine coordinator and an alternate (backup) coordinator who will be responsible for ensuring all vaccines are stored and handled correctly. The primary and alternate vaccine coordinators should be experts on your facility’s storage and handling procedures.

5.3.15.2 Vaccine Storage and Temperature Monitoring Equipment

COVID-19 vaccination providers must have proper storage and temperature monitoring equipment to meet the specific needs of the COVID-19 vaccine product(s) they have in their inventory. This includes the correct vaccine storage unit(s), whether a refrigerator, regular freezer, or ultra-cold freezer. Purpose-built, also referred to as “pharmaceutical-grade,” units are preferred and designed specifically for storage of biologics, including vaccines. However, household-grade units can be an acceptable alternative in some situations. Most standard freezer units do not meet ultra-cold freezer requirements for storing vaccine between -60° C and -80° C (-76° F and -112° F).

It is essential for each vaccine storage unit to have a temperature monitoring device (TMD) to ensure that vaccines are stored within the correct temperature range. CDC requires a specific type of TMD called a “digital data logger” (DDL) to monitor COVID-19 vaccines. A DDL provides the most accurate storage unit temperature information, including details on how long a unit has been operating outside the recommended temperature range (referred to as a "temperature excursion"). DDLs using a buffered temperature probe provide the most accurate way to measure actual vaccine temperatures. Always use DDLs with a current and valid Certificate of Calibration Testing. Note that not all DDLs can measure ultra-cold temperatures.

Storage units must have a DDL that can continuously monitor temperatures. Staff must check and record temperatures at the beginning of each workday to determine if any excursions have occurred since the last temperature check. Most DDLs measure minimum and maximum temperatures. However, if your DDL does not display minimum and maximum temperatures, the temperature must be checked and recorded at the beginning and end of each clinic day and you must review the continuous DDL temperature data daily. Monitoring requirements may vary if you are using the manufacturer-provided shipping container for storage; review the product specific information provided in the SOPs.

When recording include:

- Minimum/maximum temperature
- Date
- Time
- Name of person checking and recording temperature
- Actions taken if a temperature excursion occurred

Temperature records must be kept for a minimum of three years, or as required by Ethiopian regulations. Storing COVID-19 vaccines correctly in a vaccine storage unit is also critical to protect the vaccine and reduce the chance of vaccine administration errors if COVID-19 vaccine is stored with other vaccines.

Best practices include:

Place water bottles on the top shelf, floor, and in the door racks of vaccine storage units to help maintain stable temperatures that might be disrupted by frequently opening and closing unit doors. (Note: Water bottles are not recommended for use in in ultra-cold freezers or in all purpose-built or pharmaceutical-grade units - see manufacturer guidance.)

- Avoid placing or storing any items other than vaccines, refrigerated diluents, and water bottles inside storage units.
- Store vaccines and diluents in original packaging.
- Position vaccines and diluents two to three inches from the storage unit walls, ceiling, floor, and door. If using a household-grade unit, avoid storing vaccines and diluents in any part of the unit that may not provide stable temperatures or sufficient air flow.
- Arrange vaccines and diluents in rows and allow space between them to promote air circulation.
- Place vaccines and diluents with the earliest expiration dates in front of those with later expiration dates. Of note, EUA vaccine labels may not include expiration dates. To help providers track expiration dates and beyond use dates (BUDs).

CDC has a COVID-19 Vaccine Expiration Date Tracking Tool on its website available (https://www.cdc.gov/vaccines/covid-19/info-by-product/pfizer/downloads/expiration-tracker.pdf.) Also note that expiration dates may change as additional stability data become available.

a. "Temperature Excursions"

Any temperature reading outside the range recommended by the manufacturer is considered a temperature excursion and requires immediate action. To determine whether a vaccine is likely to still be viable, COVID-19 vaccine manufacturers will analyze information about the magnitude of the temperature excursion, including the total amount of time that temperatures were out of range. To provide the manufacturer with sufficient information to determine vaccine viability, CDC requires taking the following steps after a temperature excursion:

- Label the vaccine “Do Not Use” and store at the recommended temperature range until you receive manufacturer guidance. If it is a frozen vaccine that has been thawed, store in the refrigerator between 2° C and 8° C (36° F and 46° F) until you receive manufacturer guidance, as refreezing the vaccine may damage it.
- Document the date and length of time of the excursion, the storage unit temperature (minimum/maximum, if available), and inventory affected.
- Record any other relevant information.
- Contact the manufacturer and/or immunization program for guidance on whether to use affected vaccines and whether patients need to be recalled for revaccination.
- Document the event and actions taken for record-keeping requirements.

It is important to note that vaccine manufacturer responses to temperature excursion reports are dependent on information given by the provider to the manufacturer. Different information about the same event can lead to different recommendations on whether vaccine can be used or whether patients need to be revaccinated. In addition, each event is unique, and manufacturer recommendations cannot be applied to future events that may appear to be similar. For manufacturer contact information for vaccine- and temperature-related questions, see the COVID-19 vaccine specific product information page in this addendum.

5.3.15.3 Vaccine Deliveries and Vaccine Inventory Management

Proper vaccine inventory management is essential for appropriate vaccine ordering and stock rotation and ensures your facility has the vaccines your patients need. Maintaining the cold chain is the first step in vaccine inventory management. Vaccine deliveries must only be scheduled at times when staff is guaranteed to be present because vaccines can never be left unattended. To support efficient distribution of vaccine, full-day receiving hours should be available. When that is not possible, locations receiving vaccine and ancillary supply shipments must be available during a four-hour window on a weekday other than Monday.

All COVID-19 vaccine and ancillary kit deliveries will require a signature. Upon arrival, shipments of refrigerated and frozen vaccine must be immediately examined for signs of damage, for indication of a temperature excursion during transit, and to guarantee receipt of the appropriate vaccine types and quantities. Before opening ultra-cold vaccine shipments, make sure the vaccine can be quickly placed in an ultra-cold freezer or that dry ice is available for re-icing the shipping container to ensure vaccine remains at the appropriate ultra-cold temperature. Vaccines and diluents must be carefully examined, stored at

recommended temperatures, and documented using your facility's vaccine inventory management process immediately after they arrive.

Vaccine inventory accounting includes keeping stock records to determine the type and amount of COVID-19 vaccine your facility should stock to meet the needs of your patients. It also involves checking expiration dates regularly and rotating stock so that doses with the earliest expiration dates are placed in front of those with later dates.

a. Expired Vaccine

Determining when a vaccine or diluent expires is a critical step in proper storage and handling. Expired vaccines and diluents must be removed immediately from storage units to avoid inadvertently administering them. Manufacturers may have specific guidance on how to handle expired or compromised vaccines. However, open or broken vials and vaccine pre-drawn by providers cannot be returned and must be discarded according to Ethiopia's requirements.

To help COVID-19 vaccination providers track expiration dates and beyond use dates (BUDs), CDC has posted a COVID-19 Vaccine Expiration Date Tracking Tool on its website (https://www.cdc.gov/vaccines/covid-19/info-by-product/pfizer/downloads/expiration-tracker.pdf.).

b. Vaccine Disposal

Ethiopia's immunization program shall provide guidance to ensure your vaccine disposal procedures comply with national regulations. Vaccine manufacturers should also provide guidance about proper disposal of their products, including any unused vaccine. In some instances, unused vaccine may be returned to the manufacturer. Empty vaccine vials are usually not considered hazardous or pharmaceutical waste and do not require disposal in a biomedical waste container. However, check and comply with Ethiopia's requirements for disposal.

c. Vaccine Preparation

Vaccine preparation is the final step in the cold chain before administration. Handling vaccines with care is equally as important as storing them properly. It is important to follow vaccine preparation instructions provided in the vaccine product's EUA Fact Sheet for Vaccination Providers. COVID-19 vaccine products may have different preparation requirements. Some should not be shaken, or the vaccine will be compromised and cannot be used. Carefully follow the manufacturer's vaccine preparation guidance for each COVID-19

vaccine product. Diluents are not interchangeable unless specified by the manufacturer and vaccine mixed with the wrong diluent should never be administered.

d. Vaccine Transport

As part of the COVID-19 Vaccination Program, a minimum order size of COVID-19 vaccine, diluent (if applicable), and ancillary supplies will be shipped directly to enrolled COVID-19 vaccination providers. In most instances, vaccine will be delivered directly to the facility where it will be administered to maintain the vaccine cold chain. However, there may be circumstances where COVID-19 vaccine needs to be redistributed or transported. According to the National Deployment and Vaccination Plan, during vaccination campaigns, EPSA will be mandated to distribute vaccines, injection safety materials, PPEs and recording and reporting tools bundled to the respective woredas. The woreda will be responsible to deliver vaccines and supplies down to health center and health post using the available resources. Some of the health centers will be responsible for delivery of vaccine to the respective HPs and the HPs may collect form the respective health centers.

EPSA has a defined distribution system (Fig 4) and a clear route map to operate the distribution activities from central EPSA to regional hubs and from these hubs to woreda and health facilities. The logistics microplan will be disaggregated by the respective regional hubs who are serving their catchment areas. Vaccines, injection and safety supplies and associated supplies including PPEs will be issued to the respective facilities using the STV (stock transfer voucher), and POD (proof of delivery) will be received for each transaction ensuring supplies are reaching to the destinations accordingly. Additional cold boxes and vaccine carriers are needed for temporary storage and transportation of vaccines and ice packs to the outreach sites.

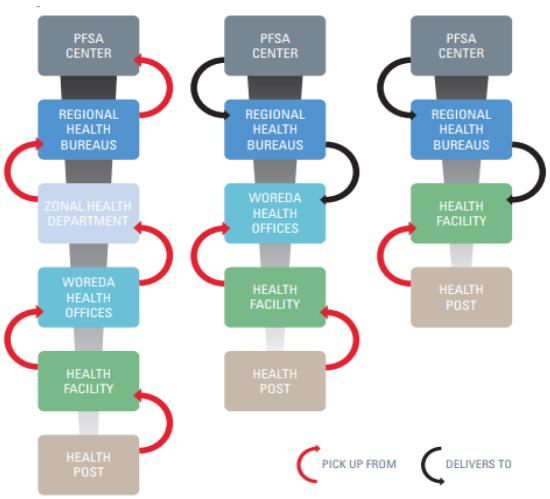


Figure 4 EPSA Distribution system

In these instances, appropriate precautions must be taken to protect the vaccine. Vaccine must only be transported using appropriate packing materials that provide maximum protection. Follow Ethiopia's direction for transporting COVID-19 vaccine products as specified in the National Deployment and Vaccination Plan for COVID-19 Vaccine. Transporting vaccine requires planning and preparation to ensure the cold chain is maintained. As a COVID-19 vaccination provider, you should carefully review the "Vaccine Transport" subsection above to ensure your facility has the appropriate procedures and supplies in place to safely transport vaccine. Transport guidance may vary based on the specific COVID-19 vaccine product. The chart in Table 4 below shows general transport recommendations to maintain the vaccine cold chain in two situations: emergency transport and transport for use at off-site clinics or satellite facilities or for relocation of stock.

Table 4: Transport recommendations for emergency, offsite-clinic, satellite facility or relocation of stocks (CDC, Feb 2021)

General Transport System Recommendations	Emergency Transport	Transport for Off-Site Clinic, Satellite Facility, or Relocation of Stock
Portable Vaccine Refrigerator, Freezer, or Ultra-cold Freezer	Yes	Yes
Qualified Container and Pack-out	Yes	Yes
Conditioned Water Bottle Transport System	Yes	No
Manufacturer's Original Shipping Container	Yes (last resort only)	No*
Food/Beverage Coolers	No	No

*The original shipping container for ultra-cold COVID-19 vaccine can be used for transport.

Recommendations vary based on the situation. Some COVID-19 vaccine products may have specific transport guidance to ensure the cold chain is maintained and vaccine is protected. Refer to the individual COVID-19 vaccine product information in this addendum for additional information.

e. Emergency Storage and Handling

Emergencies such as equipment failures, power outages, severe weather conditions, or natural disasters usually happen without warning and may compromise storage conditions. Some key issues to remember include:

- Vaccines may remain inside a nonfunctioning unit as long as appropriate temperatures are maintained. Monitor your DDL to determine when additional action should be taken.
- Having an on-site generator(s) prevents the need to transport vaccines to an alternative storage facility during a power outage.
- Emergency situations can arise outside of normal business hours, so your office staff as well your facility's building manager and/or security staff, if appropriate, must understand how to implement your emergency operation plans or access your facility if necessary.
- Ensure your facility has the resources on hand to safely pack vaccines for transport during emergencies.

5.3.16 E & S risks with cold chain equipment operation and maintenance

The COVID-19 vaccine cold chain shall be designed to keep vaccines within WHO recommended temperature ranges. MoH should put an appropriate arrangement for vaccine cold chain temperature monitoring in line with GIIP, which should cover the whole vaccine chain transport, storage, and handling. FDRE MoH shall comply with CDC COVID-19 Vaccination Program (2020) requirements for vaccine management, including temperature monitoring at all times, complying with instructions for dealing with temperature excursions, and monitoring expiration dates. Adopted standard operating procedures (SOPs) on maintaining cold chain shall be communicated to all levels of the supply chain managers. Training of healthcare professionals involved in the COVID-19 vaccination program, will include cold chain maintenance. MoH will operationalize a continuous monitoring of data recording and reporting mechanism for vaccines and cold chain equipment as well as a robust oversight and data-driven management, including systems for monitoring adherence to cold chain practices.

During operational phase of the Vaccine deployment and inoculation campaigns, the existing and additional new cold chain equipment infrastructure are anticipated to be extensively utilized. The extensive use of the cold chain during operation may likely create more demand for maintenance caused by wear and tear and these coupled with the existing non-functional cold chain equipment scheduled to be repaired with the support of the AF project would likely create a sizable gaseous waste releases that affect the environment. The cold chain equipment repair activities may potentially cause release of coolant gases to the air during

maintenance of refrigeration equipment. Though it is now banned and mostly replaced with new environment friendly coolants, the CFCs based coolant gases may still occur in some old refrigeration units coming for maintenance. Thus it will be important to take note of the adverse impacts of the CFCs based coolants and take necessary measures to prevent any release of such materials to the environment. In order to prevent such undesired impacts it is recommended to develop operational procedures for the cold chain refrigeration equipment maintenance teams to inspect availability, handling and safe disposal of CFC coolants in refrigeration units coming for maintenance.

5.3.17 Risks associated with sample collection, packaging and laboratory procedure

The project will continue to have substantial environmental, health and safety risks due to the dangerous nature of the pathogen (COVID-19) and reagents to be used in project-supported facilities. The laboratories being used for COVID-19 diagnostic testing may continue to generate biological waste, chemical waste, and other hazardous byproducts. As the facilities to be supported by the project will handle a lethal pathogen that can have the potential to cause serious illness or potentially harm laboratory and medical staff and the public, effective administrative and containment controls are being put in place to minimize these risks.

Environmentally and socially sound medical laboratory operations require adequate provisions for minimization of occupational health and safety risks, proper management and disposal of hazardous waste (including sharps disposal), use of approved disinfectants, proper quarantine procedure for COVID-19, appropriate chemical and infectious substance handling and transportation procedures, and appropriate institutional/implementation arrangements for environmental and social risks.

It is essential that laboratory analysis is carried out to immediately ascertain or rule out a suspected COVID-19 case. It is expected that COVID-19 samples collected during a suspected outbreak will be transported by trained HCF staff to a specialized reference laboratory for analysis in accordance with WHO and MoH standard operating procedures. This avoids the potential impact of risks associated with improper collection of samples, transportation of samples, improper laboratory waste disposal in communities or at emergency treatment units. Improper management of laboratory waste (syringes, Gene Expert cartridges etc.) would lead to offsite COVID-19 transmission slowing effective containment of the outbreak. The impact and severity due to unplanned disposal of COVID-19 related

laboratory waste would be a negative impact with potentially long-term and irreversible socio-economic impact with high significance.

The following mitigation measures shall be implemented for the parent project activities. These measures are elaborated in Annex III and Annex IV. Ministry of Health, through HCF staff shall:

- Ensure that HCWs who collect specimens use appropriate PPE (i.e., eye protection, an N95 mask, a long-sleeved gown, gloves). If the specimen is collected with an aerosol-generating procedure, personnel should wear a particulate respirator at least as protective as a 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 (i.e., secondary containers) that have a separate sealable pocket for the specimen (i.e., a plastic biohazard specimen bag), with the patient's label on the specimen container (i.e., the primary container), and a clearly written laboratory request form;
- Establish a quality control system for packaging, collection and transportation of laboratory samples following the WHO guidelines on laboratory biosafety guidance related to COVID-19;
- Ensure the collection of samples, transport and the testing of clinical specimens from patients meeting the suspect case should be performed in accordance with WHO interim guidance on laboratory testing for coronavirus disease 2019;
- Utilize incinerator for destroying Gene Expert cartridges at higher than 1,200 °C
- Put in place innovative and efficient mechanisms to improve transport of COVID-19 samples to reference laboratories in the shortest time possible and following the safety precautions;
- Sample transportation should not expose transporters to risk either during normal handling or in case of an accident.
- Ensure proper medical waste management in accordance with existing WHO standard operating procedures (SOPs);
- Daily monitoring of laboratory capacity to ensure they are all able to accommodate the number of samples collected;

- Organizing sample management (collection, storage, packaging and transport) in accordance with WHO guidelines;
- Regularly train the relevant health personnel on COVID-19 diagnosis and sample management.

5.3.18 Labor issues in HCF operation

Worker grievances can develop in general operation of HCFs that may involve among others, PPE availability and/or use; lack of proper procedures or unreasonable overtime; time-sensitivity and/or confidentiality of grievance. To mitigate these labor risks, the HCF will adopt the application of the GRM as features in the updated COVID-19 Labor Management Plan (LMP) which is elaborated in Annex IX as well as the WHO resources for COVID-19: occupational health available at: https://www.who.int/news-room/detail/09-03-2020-covid-19-occupational-health

5.3.19 Vulnerable and/or special needs groups

Lack of considerations in HCF operation for differentiated treatment for vulnerable and/or special needs groups may put the elderly, people with preexisting health conditions, people with disabilities at higher risk of contracting COVID-19 virus, IDPs, populations in conflict settings or those affected by humanitarian emergencies, as well as vulnerable migrants. The project design must include considerations for differential treatment for vulnerable groups (i.e. the elderly, especially women, poor, people with comorbidities, IDPs, populations in conflict settings or those affected by humanitarian emergencies, as well as vulnerable migrants and minorities) are incorporated in subproject activities based on results and recommendations from stakeholder engagements according to the updated SEP. Requirements for the Vaccine AF have been included in the revised SEP based on the National Deployment and Vaccination Plan for COVID-19 Vaccine.

5.3.20 Stigma

Stigma associated with COVID-19 revolve around a lot of uncertainties about the virus and the feeling of shame, etc. Manifestations of it include, among others: Xenophobia has been directed at people thought to be responsible for “bringing” COVID-19 into countries. People who have recovered from COVID-19, essential workers such as health-care staff, and

populations facing pre-existing stigma and discrimination (e.g., people living with HIV, people from gender and sexual minorities, sex workers, migrants) have been subject to verbal and physical abuse (https://www.unaids.org/sites/default/files/media_asset/covid19-stigma-brief_en.pdf). The impact severity in the absence or weak psychosocial support systems would impede effective prevention of stigma attached to COVID-19, a negative but short-term and reversible impact, reducing or ceasing with heightened awareness.

Mitigation measures includes:

Ensure accurate information on the disease, its spread, symptoms and outcomes is broadly distributed to communities using channels that are accessible.

Handle all people directly affected by the disease with dignity (those in hospitals, quarantine/isolation centers and the dead).

Strengthen psychological support for ETCs (for confirmed, suspected, and discharged cases) and assistance with hygiene kits for all discharged and cured patients.

- Support affected households to anticipate management of behavioral problems, which can generate tensions and resistance in the community.

5.3.21 Lack of sustainability

When improved healthcare facilities and equipment's installed are not continually maintained, they quickly degenerate. This could have significant negative medium-term impacts of local spatial extent which are reversible.

Mitigation measures includes:

- A Facility Maintenance Plan shall be prepared and implemented at each healthcare facility.
- HCF shall have timely engagement with MoH to secure a budget to sustain healthcare facilities in a functional state.
- Equipment's available in the health facilities should be serviced and maintained regularly

5.4 Occupational Safety and Health Risks

COVID-19 is highly infectious and the risk of contraction by healthcare workers and the general public is high, if requisite training, sensitization and protective gear are not provided. Medical facilities are a potential source of infectious waste and these could pose unsafe conditions for healthcare staff. Of particular concern are health workers handling infectious

waste (including sharps) without adequate protective gear, storage of sharps in containers that are not puncture-proof. While some OSH risks will be new borne by equipment or services introduced after renovation or upgrade of facilities, most other effects are existing (hence cumulative) and would only be exacerbated by increased use of healthcare services as a result of COVID-19 cases. Below is a list of OHS risk sources for healthcare staff:

- Biological hazards (blood or other body fluids with potential to cause diseases);
- Lack of adequate lighting in workplaces;
- Lack of safe access particularly for disabled employees;
- Inadequate ventilation in rooms;
- Lack of adequate training (or neglect of safety precautions/ guidelines) in use of medical equipment;
- Misuse of equipment and materials for functions they are not designed;
- Lack of safety signage in specific areas (e.g. X-ray rooms) from radioactive hazards;
- Electrical hazard;
- Eye hazards such as splashes in laboratories and operating rooms; and
- Chemical hazards (acids, alkalis, expired drugs, oxidizing and reactive chemicals);
- Likelihood of the impact occurring is high unless control measures are instituted. Although it is a cumulative impact, the risk to human health is significant.

Mitigation measures includes:

- Update and implement HCF OHS plan and/or emergency response plan,
- Ensure identification of risks (Job Risk Assessment) and instituting proactive measures,
- Train the healthcare workers on the potential OSH risks in relation to COVID-19,
- Provision of adequate and required personal protective equipment (PPE) to health workers and enforce on use. This includes: single use medical mask, gown, Apron, eye protection, boots or closed shoes.
- Provision of a system for disinfection of the multi-use PPE if not available.
- Implementation of systemic risk management plan comprising risk prevention, evacuation of accident victims, evaluation and improvement measures.
- Ensure availing of Material Safety Data Sheet for all chemical use in the lab to the lab technicians.

- The beneficiary facilities (labs and HCF) will prepare sub-project specific ICWMP and this will include update of the health facility OSH plan.
- Ensure the implementation of standard precautions and transmission based precautions in line with national guidelines for IPC in healthcare facilities taking into account guidance from WHO and/or CDC on COVID19 infection control,

5.4.1 Fire risk

Without provisions for fire safety, there is a risk of fire outbreak at healthcare facilities (quarantine, isolation, laboratories) with disastrous life and financial impact. Fires can start from ignitable materials in laboratories, cigarette smoking in non-designated places or old electrical connections.

Mitigation measures includes:

- Provide fire extinguishers to healthcare facilities during their renovation at strategic positions and ensure servicing is done.
- Key healthcare staff shall have basic training in fire control.
- Fire emergency telephone numbers should be displayed in communal areas.
- Each healthcare facility shall prepare a fire emergency management plan that features a “safe area of gathering” in each health care facility in the event of a fire outbreak for which an evacuation is required.
- Undertake regular fire drills at healthcare facility, to test on emergency response and use the results to improve on the response mechanism.
- Specific site Emergency Response Plan should adequately address all potential hazards (not just fire) including but not limited to man-made (spills, accidental releases, loss of energy supply) and flood / storm.

5.4.2 Community Health Risk

Improper waste disposal can cause public health risks due to environmental pollution: impaired air quality from burning of waste, storm water contamination or when people rummage through raw waste stockpiles. Wastewater may not seem to pose considerable disposal challenge since all existing facilities either has onsite septic systems or sewage lagoons. However, this remains a risk in areas where there is no drainage system.

Plume downwash leads to chronic exposure of nearby communities to potent air pollutants including dioxins. Infections sustained when people or children rummage through improperly dumped infectious waste can be life-threatening.

Unless mitigation recommendations are implemented, this impact will occur at all healthcare facilities. Likelihood of the impact occurring is high if incinerator stack designs are flawed or proper medical waste management practices are not instituted, and if common practices of open air burning of all waste types continue.

Mitigation measures includes:

- Targeted procurement of only required pharmaceutical, equipment, and other medical supplies in small quantities;
- Ensure regular monitoring of solid and liquid waste management practices and incineration;
- Ensure proper management of pharmaceutical waste by engaging a consultant to develop measures and guidelines for each facility in accordance with the national healthcare waste management plan;
- ~~To ensure~~ Check the presence of proper sewage management and use of latrines where there is no sewer;
- MoH shall develop measures for proper management of expired pharmaceutical drugs and instigate this policy at all health care facilities;
- ~~Install~~ Check presence of functional drainage channel within the health facility;
- Facility operators should undertake regular assessment of waste generation quantities and categories to facilitate waste management planning, and investigate opportunities for waste minimization on a continuous basis,
- Separate residual chemicals from containers and remove to proper disposal containers to reduce generation of contaminated wastewater;
- All waste disposal sites should be licensed, secured and out of reach from the scavengers;
- Select facilities which have incinerator(s) that are appropriate to handle healthcare waste with specification including air pollution control option;
- Ensure the healthcare waste generated in the facilities are disinfected, treated and safely disposed of; and

- Community should be sensitized on infection prevention and control measures related to COVID-19.

5.4.3 Emergency Response Plan

It is important to develop procedures and practices for the handling of emergency response plan that allow for quick and efficient responses to accidents that may result in injury or environmental damage.

The ERP investment beneficiary HCFs should prepare an Emergency Preparedness and Response Plan that should cover:

- Planning Coordination: This should include procedures for:
  - Informing the public and emergency response agencies
  - Documenting first aid and emergency medical treatment
  - Taking emergency response actions
  - Reviewing and updating the emergency response plan to reflect changes and ensuring that the employees are informed of such changes
- Emergency Equipment: The plan should include procedures for using, inspecting, testing, and maintaining emergency response equipment.
- Training: Employees should be trained in any relevant procedures
- Undertake regular emergency drills (fire, chemical spill) at healthcare facility, to test on emergency response and use the results to improve on the response mechanism.
- Report to the Bank within 48 hours of becoming aware of an incident or accident related to the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers including, inter alia, any COVID outbreak in the Project area or serious OHS incident under the Project. Indicate immediate measures taken or that are planned to be taken to address it, and any information provided by any contractor and supervising entity, as appropriate. Subsequently, as per the Association's request, prepare a report on the incident or accident and propose any measures to prevent its recurrence.

5.5 Gender-based violence (GBV) and sexual harassment, exploitation and abuse (SEA)

There is a risk of GBV and SH/SEA during operational phase in the management of quarantine/isolation centers. To protect vulnerable groups, prevent occurrence of sexual harassment and mitigate the risks associate with gender based violence (GBV), formal

training and communication materials will be produced and distributed for healthcare providers and other workers in health facilities including isolation and quarantine sites. Similarly, communication alerts will be distributed to law enforcement staff and platform will be created for information exchange so as to help victims of sexual harassment and GBV. A standard reporting mechanism that includes referral and feed-back and complaint mechanism will be established and properly implemented in line with international good practice, including confidentiality and overall a survivor-centered approach. Particularly for Covid-19 related GBV incidents, the existing GBV incident reporting processes and management protocols will be adapted to fast-track Covid-19 related GBV incidents/cases to treatment centers, avail targeted psychosocial counseling and other health screening tests and supply with need PPEs and prioritize tools. The MOH Women Youth and Adolescent Directorate (former Gender Directorate) has prepared Covid-19 focused operating procedures and tools under the parent project, and monitor their use and adherence at health facilities, isolation and quarantine centers. Detailed guideline is annexed with the updated SEP.

If security personnel are deployed to guard isolation/quarantine centers the risk of abuse of women and girls could be high. There is also a risk of GBV/SHEA among co-workers.

Mitigation measures includes:

- Ensure isolation and quarantine centers are protected.
- Limit admission of outsiders into the centers.
- Monitor and report on the behavior of security guards at the centers.
- Ensure the people in these facilities understand the GBV/SEA/SH referral pathways.
- Ensure the people at the center have access to the toll free hotline.
- All workers should sign the code of conduct to hold them accountable (see the LMP).

5.5.1 Lack of or inadequate public participation and consultation

Public participation is a legal requirement for any development activity. However, given the emergency nature of this project, this process may not be effectively done. Those at the periphery - rural populations, the urban poor and vulnerable may be discriminated against in this process.

Mitigation measures includes:

- Ensure that measures are put in place to identify and reach the vulnerable community members with project information. Special efforts should be made to reach the deaf and

blind with critical information on COVID-19. The updated SEP for the Vaccine AF identifies vulnerable community members and includes an engagement plan for effective communication with them.

- Use communication channels that are accessible to marginal populations including use of community radios, translating information in local languages.
- Identify and equip local leaders with information for further dissemination in their communities through their local structures including community leadership, churches, mosques, clans, etc.

5.6 DECOMMISSIONING STAGE

This section outlines the implementation of the technical activities for the safe decommissioning of COVID-19 HCFs established with parent project investments and those of the Vaccine AF, including triage and screening areas, quarantine, isolation and treatment centers with particular reference to the process and the technical aspects, including the physical infrastructure, furnishings, equipment and supplies. The primary responsibility lies with the institutions in charge of the facilities under the supervision of the facility manager and the MoH. The subproject level ESMPs will cover decommissioning related activities for all project-related works.

Decommissioning is intended as the technical process in which COVID-19 healthcare facilities are assessed, dismantled and/or repurposed after a proper decontamination phase aiming to prevent possible exposure to contaminated structures, equipment or material. Areas of COVID-19 care facility can also be decommissioned during the operational phase when they are no longer required and/or their physical status is visibly deteriorated. Such areas should be cordoned off to prevent unauthorized re-entry in order to avoid re-contamination.

5.6.1 Decommissioning process

The decommissioning process has been divided into four phases as illustrated in Figure 5.

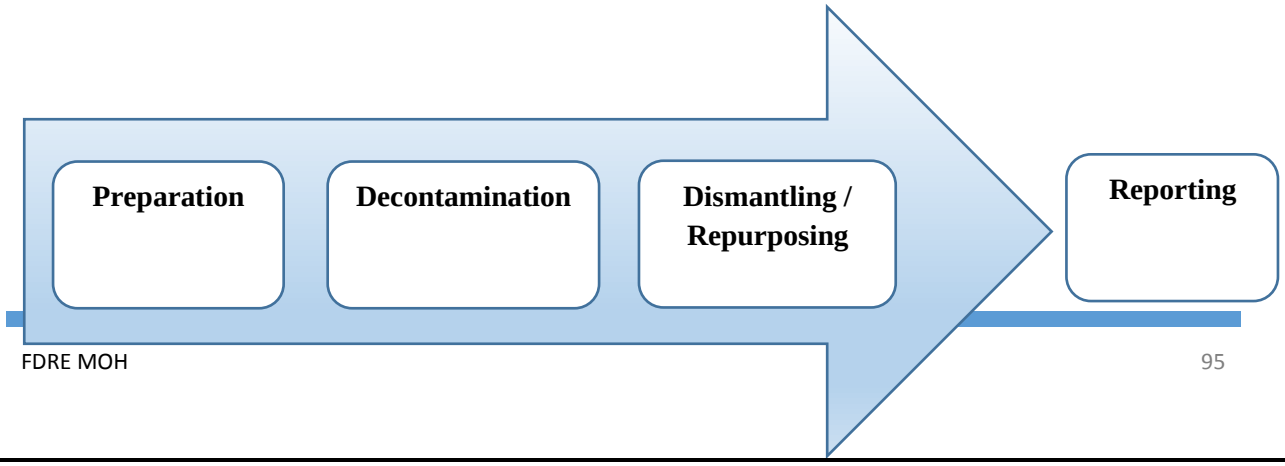


Figure 5: Decommissioning process

These phases should be strictly followed to ensure that operations are conducted in a safe manner. This guidance, however, covers only the physical structures and equipment as all the other related factors of the decommissioning process are outside the scope of this guidance.

Preparation for decommissioning should be undertaken well in advance of the authorization for decontamination to ensure stakeholders' buy-in. This phase includes the planning of the required pre-and post-decontamination actions as follows:

- Health facility/site manager should issue notice of the intention to decommission the site to relevant departments;
- Access control should be maintained throughout the whole process to guarantee the smooth running of operations, safety of the staff involved and to manage the perception of the process within the local community; and
    - ✓ Items (e.g., furniture, beds, tents, equipment, and instruments) should only leave the site at the end of the process and with the permission of the site manager to reduce risk of recontamination.
- The facility manager should brief the decommissioning team. The briefing should focus on infrastructures in place and method of construction, and identification of a "clean zone" for the reception and temporary storage of disinfected material.
- Community engagement should aim to inform, consult, engage and reassure the surrounding community in regards to the decommissioning process.
- Infrastructure assessment refers to the visual inspection for signs of decay or breakdown.
- Logistical activities are divided into supply, inventory (or list) and storage:
    - ✓ ***Supply:*** all items required to perform all the activities included in the process with particular reference to personal protective equipment (PPE), machine and equipment's, appropriate disinfectants (including chlorine, alcohols, peroxygen, detergents, iodophors, quaternary ammonium and phenolic compounds) are effective against corona viruses if used at the correct concentration for the appropriate contact time as specified in the manufacturer's recommendations.
    - ✓ ***Inventory*** (or list): all equipment should be revised during the preparation phase and agreement made about their future with particular reference to tents,

medical equipment, generators, pumping devices and incinerators, based on the regulations and agreements stipulated at the time of opening the facility.

- ✓ ***Storage***: refers to the identification and briefing of the team in charge of disassembling the tents and temporary infrastructures. This process includes also identification of the site for temporary storage of the material that can be reused.

- ***Risk analysis***: refers to the revision of the associated hazards in each phase of the process and related mitigating measures already in place and/or to be established.
- ***Staff requirements:*** should be based on the size of the facility and timeline considered for the completion of the process.
- The team must include a former infection prevention control staff from COVID-19 care facility. This decreases the time spent on retraining staff on the correct implementation of technical areas.
- More than one team can operate at the same time under supervision of their respective team lead/supervisor. However, their assigned area should be identified, marked and reviewed during the preparation phase.
- Training of the team: should comprise the preparation, activities to be undertaken and potential risks involved, emergency response plans, occupational Safety and Health measures and safe use of cleaning and disinfectant solutions and the different types of PPE for use. Tetanus immunization should be offered to the team, if available.

Decontamination: The following precautions shall be undertaken.

- Monitoring of the sectioned areas during the whole decontamination phase;
- Use of tape or rope to demark the area during the operation and identify the disinfected areas if the work is conducted in phases; and
- Creation of a dedicated space for the drying of equipment/materials during the cleaning phase.
- The IPC officer and/or designee should observe the cleaning and disinfection process as a way to validate that the surfaces have been properly cleaned and disinfected.[5]

Table 5 highlights the minimum requirements for safety during the decontamination phase. It is classified into three groups: PPE, human resources, and consumables.

[5] World Health Organization. (2020). Cleaning and disinfection of environmental surfaces in the context of COVID-19: interim guidance, 15 May 2020. https://apps.who.int/iris/handle/10665/332096

Table 5: Minimum requirements for safety during the decontamination phase

Human Resources	Personal Protective Equipment	Consumables
Project officer IPC officer Hygienists Water and sanitation officer Occupational Safety and Health officer Laundry staff (optional) Waste handler County Public Health Officer Security guards	Double gloves (non-sterile examination gloves and heavy duty gloves). A disposable gown or coverall made of fabric that is tested for resistance to penetration by blood or body fluids or to blood borne pathogens to cover clothing and exposed skin. A disposable waterproof apron worn over the gown or coverall. If disposable aprons are not available, heavy duty reusable waterproof aprons can be used. If appropriate, cleaning and disinfection is performed. A fluid-resistant medical/surgical mask with a structured design that does not collapse against the mouth (e.g., duckbill, cup shape). Eye protection (either goggles or face shield) in order to have the mucous membranes of the eyes, mouth and nose completely covered by PPE and prevent virus exposure. Waterproof boots (e.g., rubber/gum boots). If boots are not available, health workers must wear closed shoes (slip-ons without shoelaces and fully covering the dorsum of the foot and ankles) and overshoes.	Demarcation tape Disposable plastic waste bag. For other consumables.

Dismantling / Repurposing: The dismantling phase refers to the disassembly of temporary infrastructures and the potential reuse and/or recycling of material or its disposal. It should start only after the validation of the proper cleaning and decontamination of the structures by the IPC officer/designee.

Creation of a well demarcated “clean” zone (e.g., fenced with plastic mesh) within the low-risk area where disinfected equipment and materials from the low-risk area can be temporary stored. The size of the area is dependent on the care facility. However, it is generally recommended to consider a large area due to the volume of items to be stored.

The process of dismantling can be conducted in different areas of the facility simultaneously. However, for larger facilities, it is important to proceed in phases in order to better monitor the safe implementation of the activities. Tents if not damaged (tent must be intact) and not

made of absorbable material can be packed in storage for subsequent reuse. Wooden shelters and fencing built using tarpaulin can be dismantled and burnt due to their likely deteriorated condition. Concrete surfaces requiring break up should be left until the end of the process. This will allow for the safe use of the excavator. If break up of concrete is done manually, precautions should be taken to prevent Safety and Health hazards.

No equipment or material should be abandoned on site without the approval of the relevant regulatory authorities and affected landholders.

In the event that masonry or concrete structures are buried, the responsible agencies provide a site plan to the landowner and also explain to the landowner where the abandoned facilities are located. If buried and decommissioned latrine pits or septic tanks are present, there is a need to conduct a simple risk assessment including soil type, water table, hydraulic gradient, and time since pit was buried, etc. This will ensure the safety of new installations, including possibly water pipes.

Repurposing principle: The key technical principles for the repurposing of COVID-19 care facility are:

- Location and assigned purpose of the structure;
- Quality of the construction and the material used, in particular for temporary structures;
- Evaluation of the water system in terms of water quantity, in particular during the dry season, and water quality (especially for microbial containment); and
- Quality of the construction and functioning of sanitation facilities.

If the permanent structures are to be returned to their original condition, an assessment of the condition of the building should be performed and maintenance activities conducted before the re-opening of the facility. A fresh coat of paint is will be provided as a reassuring measure for the community.

Reporting: A final report of the entire decommissioning process should provide records of all activities, final dispositions of waste and recycled products. This should be submitted within 2 weeks of completing the decommissioning process. It should include:

- The completed audit checklist approved by an IPC officer and by the Ministry of Health (MoH) or relevant authority and facility manager;
- Listed material and equipment for reuse and donation;

- Organization and management of occupational Safety and Health during the decommissioning process;
- Site plans, including underground masonry or concrete structures, water points and location of waste disposal areas (burn pits, latrine pits, etc.);
- Waste management process;
- Photo journal;
- Conclusions and recommendations;
- Strategy for after action review;

The completed audit checklist shall be handed over to the management of the facility hosting the isolation center (e.g. school, etc.).

6. Procedures to Address Environmental and Social Issues

This ESMF is designed to support the application of World Bank Environmental and Social Standards in combination with the Ethiopian legislation on environmental impact assessment to the Additional Finance Project. ESS1 on Assessment and Management of Environmental and Social Risks and Impacts is among the standards relevant to the Additional Finance Project and thus the relevant principles of ESS 1 in relation to subproject categorization are briefly outlined as follows.

The AF Project being a project which consists of a series of sub-project activities to be identified and implemented in several HCFs, Point of Entry, and Quarantine places across the country, the risks and impacts cannot be determined until the subproject locations have been identified. For such subprojects involving multiple small subprojects, that are identified, prepared and implemented during the course of the project, MoH and its partner institutions will carry out appropriate environmental and social assessment of the subprojects, and prepare and implement such subprojects, as follows:
(a) High Risk subprojects, in accordance with the ESSs;
(b) Substantial Risk, Moderate Risk and Low Risk subprojects, in accordance with National law and any requirements of the ESSs that the Bank deems relevant to such subprojects as determined during its review for “no objection” clearance of the sub-project. Where subprojects are likely to have minimal or no adverse environmental or social risks and impacts (i.e. low risk), such subprojects do not require further environmental and social assessment following the initial scoping.

The Additional Finance Project is generally categorized as "Substantial Risk" project and hence MoH and its partner institutions will be required to undertake the appropriate environmental and social assessment of subprojects in accordance with the ***national law and any requirements of the ESSs*** that deemed relevant to the sub-projects. Accordingly, the most important National guideline that defines the categorization of subprojects into various schedules is the EIA Procedural Guideline issued by the Federal Environment, Forest, and Climate Change Commission in November 2003. The ESIA Procedural Guideline Categorizes all development projects into three Schedules of activities or projects. The full list of Schedule I, II and III subprojects of the EIA procedural guideline (2003) is provided in Annex- VIII. It should also be noted that the relevant ESSs that are likely to be relevant to the Additional Finance Project are broadly assessed and outlined in Table 1 of this ESMF and will need to be customized and applied for each sub-project.

Under the AF project, the expected subproject activities from Component 1 involve procurement of COVID-19 vaccines, vaccination supplies such as diluents, syringes, and e.t.c, climate friendly cold chain equipment and maintenance of existing cold chain equipment, PPE for female health workers and volunteers, as well as project COVID-19 vaccine storage and transportation, infection prevention and waste management. Moreover, the expected subproject activities from component 2 mainly involve supervision activities on project COVID-19 vaccine safety and Adverse Event Following Immunization (AEFI) monitoring. Component 4 also includes a subproject on refurbishing and equipping a Project COVID-19 Vaccine laboratory under the Ethiopian Food and Drug Administration (EFDA) which is also anticipated to entail limited E&S risks during construction. It is anticipated that the majority of these Component 1, 2 & 4 subproject activities of the AF project will fall into Schedule II which require Preliminary ESIAs and Schedule III subprojects that will not require preliminary ESIA at all. Ethiopia will purchase its COVID-19 vaccines through its participation in the COVAX facility under the Procurement Framework Agreement (PFA) between the Government and the third-party logistics UNICEF/GAVI as detailed in the National Deployment and Vaccination Plan for COVID-19.

6.1 Sub-project Screening and Approval Process

Step 1: Sub-project Identification

Sub project refers to the set of activities derived from the AF project Component and sub-component activities including technical assistance studies and consultancies for which support through investment project financing is sought by the client. Identification of subprojects is carried through consultative process by the lead implementing agency (MoH), the partner institutions such as Ethiopian Food and Drug Authority (EFDA), Regional States Health sector offices, and in collaboration with other beneficiary institutions. The identified subprojects will be reviewed and compiled into an annual action plan by the relevant technical working group (TWG) and will be

forwarded to GMU and MoH (Office of the state Minister) for endorsement and approval. Subprojects included in the approved annual action plan of the AF project will be eligible for E & S screening.

Step 2: Checking Eligibility of subprojects

The ESCP stipulates exclusion of potential project activities as ineligible for the Vaccine AF financing based on the following criteria:

- Activities that may cause long term, permanent and/or irreversible (e.g. loss of major natural habitat) impacts
- Activities that have high probability of causing serious adverse effects to human health and/or the environment other than during treatment of COVID19 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 historically marginalized people or other vulnerable minorities,
- Activities that may involve permanent resettlement or land acquisition or impacts on cultural heritage

The sub-project will be subjected to screening process by the MoH GMU E & S staff, and the focal persons deployed by partner and beneficiary institutions against environmental and social checklist indicated to check their eligibility for the project financing. In checking the eligibility of the sub projects the questions in Annex II would be answered as “Yes” or “No”. If the answer to any one of the questions in the annex is ‘Yes’, then the subproject will be redesigned to be acceptable or stopped if redesigning is not possible. If on the contrary the answer is ‘No’ for all the questions, then one must proceed to the next step.

Step 3: Scoping/Screening

The screening aims at categorizing the sub-projects into one of the environmental and social categories consistent with National EIA Guidelines and WB ESF. It is a key environmental and social management process aiming at determining appropriate studies and follow up that might be required for sub-project activities. Screening will be carried out on specific project activities once they have been identified during planning phase of the AF Project.

This ESMF requires that all relevant AF subprojects having specified site location, as well as relevant technical assistance subprojects, be scoped/screened for social and environmental impacts. Scoping/screening will be required where investments will be made on refurbishment of existing infrastructure, or on development of new infrastructure subprojects included in the endorsed action plan of the AF Project.

In order to fulfill the requirements of ESS-1 and National EIA guidelines, the environmental and social scoping/screening will follow two stages. Initially, a scoping/screening of subprojects will be carried to categorize it into one of high, substantial, moderate or low risk. During this first stage, the subproject will be scoped/screened using the scoping/screening form attached in Annex-II. Under the AF project sub-components, it is anticipated that the majority of subproject activities will fall under substantial risk (in line with the overall categorization of the AF project as "Substantial" risk rating) and no "High Risk" sub-projects are expected and accepted and high risk projects are excluded. Once the subprojects are scoped/screened and confirmed to fall on or below substantial risk category, then further categorization will be carried by applying the national screening system to identify the schedule of activities into which the subproject will fall (Schedule I, II &III). Based on the nature and scale of the Additional Finance subprojects it is expected that most will fall under schedule II or III which may require Preliminary ESIA or no ESIAs.

The GMU environment and social staff in collaboration with the E & S focal persons of partner and beneficiary institutions will initiate the scoping/ screening process by completing the form contained The aim of the scoping/screening form is to assist in identifying potential environmental and social impacts based on field investigations in the area of the subproject site. While completing the screening/scoping form the assessor should undertake the assignment after:

- ✓ Gaining adequate knowledge of baseline information of the area.
- ✓ Gaining knowledge of proposed sub project activities for the area.
- ✓ Having been briefed / trained in environmental and social screening.

Based on the nature and size of the subproject, the GMU E & S risk management staff can seek assistance from other members of the technical working groups while carrying the environmental and social screening.

The outcome of environmental scoping/screening will be classifying the proposed Additional Finance subproject into one of Substantial, Moderate, or low Categories and Schedule I, II or III activities.

The completed scoping/screening report will be submitted first to the MoH and/or Regional state GMU coordinator for internal checking and approval. It will then be submitted as appropriate to the nearest Regional, Zonal, Woreda or City level EPFCCA with an official application letter for review and approval. For subprojects implemented in Addis Ababa and Diredawa City Administrations, the E&S screening reports will be submitted to the respective City level environment protection offices. The relevant EPFCCC office to which it is submitted will review the Scoping/Screening Report and will:

(a) Accept the document - with conditions relating to implementation;

(b) Accept the documents with required and/or recommended amendments; or

(c) Reject the document with comments as to what is required to submit an acceptable Screening Report.

Following the approval of the subproject environmental screening report by the relevant EPFCCC office, the subproject will be fed into one of the following processes based on its approved Categorization.

i. Schedule II subprojects will require a partial or preliminary ESIA and will necessitate the inclusion of environmental and social mitigation and enhancement measures in the design and implementation of subprojects.

ii. Schedule III projects are not subject to environmental assessment as no potential impacts are anticipated. Thus, no further action is required. However, the environmental guideline for construction contractors will be applicable.

The next step in the ESMF process is to proceed to the next actions to fulfill the requirements based on the screening categorization, which is outlined in step 4…below.

Step 4: Schedule II Subprojects (Preliminary ESIA preparation)

If the outcome of the E & S screening/scoping finally results in categorizing the subproject as schedule-II activities, the following actions need to be pursued. Schedule II projects will be subject to a limited Environmental and Social Impact Assessment that could be carried out with the help of registered and licensed environment and social consultants. The depth of information requirement (i.e. content) to be consisted in the preliminary ESIA is defined in consultation with the relevant Regional, Zonal, Woreda or City level EPFCCA. Generally, the scope of ESIA for schedule II project may vary, but it is narrower than that of Schedule-I ESIA. Like Schedule I ESIA, it examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance which will be summarized in the ESMP. MoH and the Regional health bureaus would ensure that all the necessary mitigation measures are incorporated in the ESMP including the Infection Control and Waste Management Plan (ICWMP).

Following that, the Preliminary ESIA will be send to the World Bank Country office for review and clearance /no-objection. Finally, the Preliminary ESIA will be submitted by the GMU and/or E & S focal persons in partner/beneficiary institutions to the relevant Regional, Zonal, Woreda or City level EPFCC office with an official application for review and approval.

Note: If, on the other hand, the outcome of the E & S screening/scoping finally results in categorizing the subproject as schedule-III activities, no further actions to carry Environmental Assessment will be

needed. Based on the nature of the schedule-III subproject, if it deemed necessary, a distinct ESMP (which will be based on the generic E&S management and monitoring plan included in this ESMF) including Infection Control and Waste Management Plan (ICWMP) will be prepared to address and mitigate the expectedly few and minor environmental and social impacts of the subproject and attach it with the E&S screening report for further implementation.

Step 5A: Review and Decision

The relevant Regional, Zonal, Woreda or City level EPFCC will review the Preliminary ESIAs submitted to it by the GMU and/or environment focal persons in partner/beneficiary institutions. The purpose of review is to examine and determine whether the Preliminary ESIA is an adequate assessment of the environmental effects of the AF subproject under consideration and of sufficient relevance and quality for decision-making. The outcome of the review of the Preliminary ESIA by the Regional, Zonal, Woreda or City level EPFCC will result in either one of the following:

(a) Accept the document - with conditions relating to implementation;

(b) Accept the documents with required and/or recommended amendments; or

(c) Reject the document with comments as to what is required to submit an acceptable ESIA and ESMP.

Step 5B: Disclosure

While in the review and approval process, as required by the World Bank guidelines and the National ESIA proclamation, the Preliminary ESIA documents must be disclosed for public review at a place accessible to local people (e.g. at a local government office i.e. kebele council, City/town and regional bureaus, at the Regional/Federal EPFCCA, MoH website, e.t.c), and made available in a form, manner, and language they can understand. Disclosure of the Preliminary ESIA in the World Bank's website is also a requirement for the AF subprojects.

6.2 Implementation & Supervision

When approval has been given to the Preliminary ESIA, implementation of mitigation measures and systemic follow-up is needed for the sub-project. The GMU ES risk management staff and/or environment focal persons in partner/beneficiary institutions will be required to enforce implementation of proposed mitigation measures as proposed in the ESMP by all responsible institutions and stakeholders.

Internal monitoring to ensure the compliance of Additional Finance subproject implementation activities against the mitigation measures set out in its ESMP, will be carried out by the environment and social risk management staff of the GMU, focal person of the partner/beneficiary institutions who are responsible for environmental and social management as well as the supervisory engineer at the refurbishment/renovation construction site. The GMU environment and social risk management staff in collaboration with the partner/beneficiary institution risk management focal persons will have the primary responsibility for carrying out this monitoring by regularly visiting the subprojects, and pursuing the corrective measures as required. Periodic reports of internal monitoring should be prepared quarterly by the environment and social risk management staff and submitted to the GMU and then to office of the state minister (MoH) as part of the regular Additional Finance Project M&E process.

The implementation of the identified mitigating measures will also be monitored by the Regional, Zonal, Woreda or City level EPFCC offices. The GMU risk management staff and/or focal persons in the partner institutions will have to collaborate in the planning for external compliance monitoring and inspections that will be conducted by the relevant Regional, Zonal, Woreda or City level EPFCC offices. The planning for external compliance monitoring/inspection could be initiated by the Regional, Zonal, Woreda or City level EPFCC itself or (if that is not coming forward from EPFCCC side) by the GMU and partner/beneficiary institution environment focal persons in line with the M&E system.

6.2.1: Environmental and Social Risk Management Monitoring Reports

Quarterly, biannual and annual environmental and social risk management monitoring reports must be prepared by the GMU in collaboration with the environment focal persons in partner/beneficiary institutions. The environmental and social risk management monitoring reports should also include incident reporting and GRM records summary and will be submitted to office of the state Minister (MoH), to the Regional EPFCCA and the World Bank for review. The purpose of these reports is to provide:

- measure the success rate of the project;
- verify the accuracy of the environmental and social impact predictions;
- determine the effectiveness of measures to mitigate adverse effects of projects on the environment;
- determine whether interventions have resulted in dealing with negative impacts; determine whether further interventions are needed, or monitoring is to be extended in some areas;

6.2.2 Sub Projects Involving Cultural Heritage Management

Since the AF project will support only refurbishing of the existing health care infrastructure, the project does not pose any risk to historical buildings and cultural heritage site.

In case of chance find of heritage encountered during subproject implementation activities, the procedures that should be followed are stipulated under article (41) "Fortuitous Discovery of Cultural Heritage" of the Proclamation No 209/2000 which includes:

i. Any person who discovers any Cultural Heritage in the course of an excavation connected to mining explorations, building works, road construction or other similar activities or in the course of any other fortuitous event, shall forthwith report same to the Authority, and shall protect and keep same intact, until the Authority takes delivery thereof.

ii. 'The Authority' shall, upon receipt of a report submitted pursuant to Sub-Article (I) hereof, take all appropriate measures to examine, take delivery of, and register the Cultural Heritage so discovered.

iii. Where the Authority fails to take appropriate measures within six month in accordance with Sub- Article (2) of this Article, the 'person who has discovered the Cultural Heritage may be released from his responsibility by submitting, a written ,notification with a full description of the situation to the Regional government official. .

iv. The Authority, shall ensure that the appropriate reward is granted to the person who has handed over a Cultural Heritage discovered fortuitously in accordance with sub-Articles (I) and (2) of this Article. And such person shall be entitled to reimbursement of expenses, if any, incurred in the course of discharging his duties under this Article.

A complete chance find procedure incorporating the above procedure of the proclamation enriched with other necessary good practice procedures is presented in Annex VI

7. Public Consultation and Disclosure

Due to the emergency situation and the need to address issues related to COVID19, no dedicated consultations beyond public authorities and health experts, including Africa CDC, was conducted during the parent project preparation. However, the Ministry of Health can refer to consultations conducted as part of the Africa CDC project and the Ethiopia Health SDG Project. However, during the SEP update for the parent project and during project implementation, the project conducted additional virtual consultations with the following key stakeholders: UNICEF, WHO, International Red Cross (IRC), Ethiopia Red Cross Society, Federal Police, Defense, Sector Ministries and Agencies, Regional Risk Communication and Community Engagement Departments, Prisons, Industry Parks, Iddir Associations, cross country driver associations; and quarantine facilities as well as community members at cluster or hot spot areas. In all discussion sessions, stakeholders expressed

their interest to support the project implementation through their full cooperation. However, the following concerns were also raised by stakeholders participated in those consultations: there might be shortage of hygiene and sanitation facilities, community's resistance towards banned activities; shortage of megaphone (sound amplifier) to educate the community keeping their physical distancing and implementing other measures indicated for COVID 19 by MOH and WHO. The project team highlighted that there will be continuous consultation and awareness creation activities as per the SEP and the RCCE strategy that helps the community and the population at large to change the attitude towards COVID 19 including the COVID-19 vaccination.

8. Stakeholder Engagement

The main goal of stakeholder's engagement program is to create awareness of the key deliverables of the project, keep stakeholders updated on key activities, and provide avenues for affected-people /community to voice their concerns and grievances. The AF project recognizes the need for an effective and inclusive engagement with all of the relevant stakeholders and the population at large. The AF will further strengthen the approach established in the parent project to engage with stakeholders based upon meaningful consultation and disclosure of appropriate information, considering the specific challenges associated with COVID-19, including the vaccination campaign. For this reason, the parent project SEP has been updated in January 2021 to incorporate additional dimensions to the stakeholder engagement process.

The updated SEP for AF project have identified the key stakeholders of the AF Project, characterized the disadvantaged and vulnerable groups involved, and developed a "Risk Communication and Community Engagement" (RCCE) strategy for implementation during the AF project period. The main objective of the RCCE response to COVID19 is to empower individuals, families, and communities to adopt preventive and health seeking behaviors contributing to a reduction in the spread of COVID-19 Outbreak in Ethiopia. The RCCE have identified several areas of strategic intervention including; advocacy for infection prevention and control measures, vaccine acceptance and uptake (Demand creation), advocating for government ongoing support for vulnerable people, preparing health work force to respond to the COVID-19 outbreak, promoting mental and physical wellbeing, promoting health service continuity for at risk groups; especially children; pregnant women and mothers; reducing stigma related to COVID-19, gender based violence (GBV) and other risk management methods, protection of the vulnerable groups, as well as contextualizing and tailoring health

information for public consumption. The updated SEP also emphasises on the need to establish two-way communications and identified proper communication channels for the different population/community settings (i.e. Rural, Urban, Pastoralist communities e.t.c) found in the Country. In broader terms, the RCCE encompasses behavioral and sociocultural risk factors assessment, production of RCCE strategy and training documents, production of communication materials, media and community engagement, and documentation.

The updated SEP will ensure that information disclosure takes place in an on-going and satisfactory manner, with clear and accessible messaging on safety of vaccines, principles of fair, equitable and inclusive vaccines access and allocation, as well as rationale for prioritizing certain groups where stakeholder engagement takes place in an on-going manner, at different levels, with different partners, and in a culturally appropriate manner. People affected by Project activities shall be provided with accessible and inclusive means to raise concerns and grievances. The approaches taken in the updated SEP will ensure that information is meaningful, timely, and accessible to all affected stakeholders, including usage of different languages, addressing cultural sensitivities, as well as challenges deriving from illiteracy or disabilities. The RCCE outreach will include information on the vaccination campaign moving forward.

The parent project SEP, which is now updated for the AF project, has been under implementation till present. A recently carried supervision mission on performance of parent project implementation notes considerable progress in the implementation of Risk Communication and Community Engagement Strategy. According to the updated SEP, it was reported that in the last six months the following achievements were undertaken.

- Activities to ensure two-way communications, including rapid assessments, use of toll-free numbers, rumors and media monitoring, and live TV programs were undertaken
- Several communication materials targeting different audiences (including persons with hearing difficulties) were developed and shared with the public.
- Some communication channels tailored to different population groups have been used and trusted sources were involved in disseminating messages.

- Activities targeted at ensuring community ownership such as discussions with community representatives and community contact tracing were planned in the RCCE and the SEP.
- Regular daily and weekly briefings have been provided by the minister and EPHI authorities about the pandemic.
- Several stakeholders were involved as evidenced by the several coordinating meetings and other types of meetings conducted; and services provided at quarantine and isolation sites and medical facilities including psychosocial support services and information exchange.

In addition, the following main activities were undertaken:

- Orientation on the new directive on prevention and control of COVID-19 was given to members of different sectors of the community through several meetings.
- Orientation on school reopening and prevention and control of COVID19 was given to relevant stakeholders through several meetings.
- All regions were supported financially to train and deploy 1000 volunteers per regions.
- Behavioral and social risk factors assessments were undertaken, and a national survey is underway.

The parent project for the first months had faced critical challenges in assigning dedicated staff for the implementation of RCCEs and SEP and compliance monitoring and reporting was a key challenge. The supervision mission report also stated that, eventually these challenges were solved as both the MoH and EPHI have assigned dedicated focal persons responsible for environment and social risk management including the implementation of Risk Communication and Citizen Engagement plan. Further, the client assigned focal persons at regional level as well as at each quarantine and isolation center. All regional and woreda level RCCE focal persons have been assigned/deployed/recruited and were provided orientation and/or training.

The implementation of the updated AF project SEP is expected to continue by further strengthening the mechanisms of the parent project through mobilizing additional resources.

9. ESMF Implementation Arrangement

The MOH through its GMU will remain to be the implementing agency for the AF Project and the Office of the Minister will be responsible for the oversight function. In addition to MOH and Ethiopia Public Health Institute (EPHI), which are the implementing entities under the Parent Project, the Ethiopia Pharmaceutical Supply Agency (EPSA) and Ethiopian Food and Drug Administration (EFDA) will both support the Partnership and Coordination Directorate (PCD) and directly implement certain activities under the AF for activities outlined in the National COVID-19 vaccine rollout plan. As a central coordination body for the Parent and AF projects, it is necessary that the GMU is staffed adequately with environmental and social risk management specialists who will be spearheading the implementation of the ESMF process at central level throughout the project life cycle. The Ministry of Health would deploy qualified staffs and resources to support management of environmental and social risks including E&S specialists. The GMU and its environment and social risk management staff will be in charge of implementing the ESMF process in all applicable Parent and AF financed subprojects.

The GMU environmental and social risk management specialists will also be responsible to oversee the environmental and social risk management issues in relation to all Parent and AF financed sub projects. The GMU will need to work in close collaboration with the procurement department, the technical implementing institutions such as EPHI and EFDA as well as other partner and beneficiary institutions.

As the Parent ECERP and AF project is going to be implemented throughout Ethiopia resulting in potential large number of subproject activities involving vaccination deployment sites (i.e. Cold chains and HCFs, Point of Entry, Quarantine Isolation centres, Temporary vaccination posts) distributed all over the country, it will be important that AF project implementing partners and beneficiary institutions (such as EPHI, EFDA, EPSA, Regional Health Bureaux, Regional Public Health offices) should assign focal persons for environment and social risk management. The focal persons at Regional Public Health offices and at Each Points of Entry, Isolation, Quarantine, and Treatment Centers will be trained on the relevant WHO guidelines and on the ESMF so that they could have awareness on the safe practices. The focal persons should prepare and implement site specific ES risk management tools and should report monthly to the Federal GMU /Project Coordination Unit/ on whether

laboratories or Points of Entry, Isolation, Quarantine, Treatment Centers, and Temporary vaccination posts have been run in compliance with the requirements of the WHO COVID-19 guidelines and the ESMF as well as gaps, if any, which need to be addressed. The GMU environment and social risk management specialists will coordinate with the focal persons to be deployed by the partner and beneficiary institutions. The Federal GMU /project coordination Unit/ will compile and share the reports on the same period to the Bank so that compliance with the EHS requirements could be monitored. The GMU specialists will be responsible for the implementation of subproject activities in compliance with the requirements of the ESMF.

MOH is expected to prepare and submit to the World Bank regular monitoring reports on the environmental, social, health and safety (ESHS) performance of the Project, including, but not limited to, stakeholder engagement activities, grievances and any incident reporting, as per ESIRT requirements. An internationally renowned health agency (Africa CDC or WHO) will regularly review the Project's implementation, monitoring, and reporting provisions made under the Project.

9.1.1 Roles and responsibilities during implementation of the ESMF

The roles and responsibilities of the main project implementing institutions and associated agencies in the implementation of the ESMF is as follows. This ESMF does not cover the roles and responsibilities associated with implementation of the subsequent ESMPs and/or stand-alone management plans; those will be defined for each of the subprojects in the management plan that will be developed as required per this ESMF.

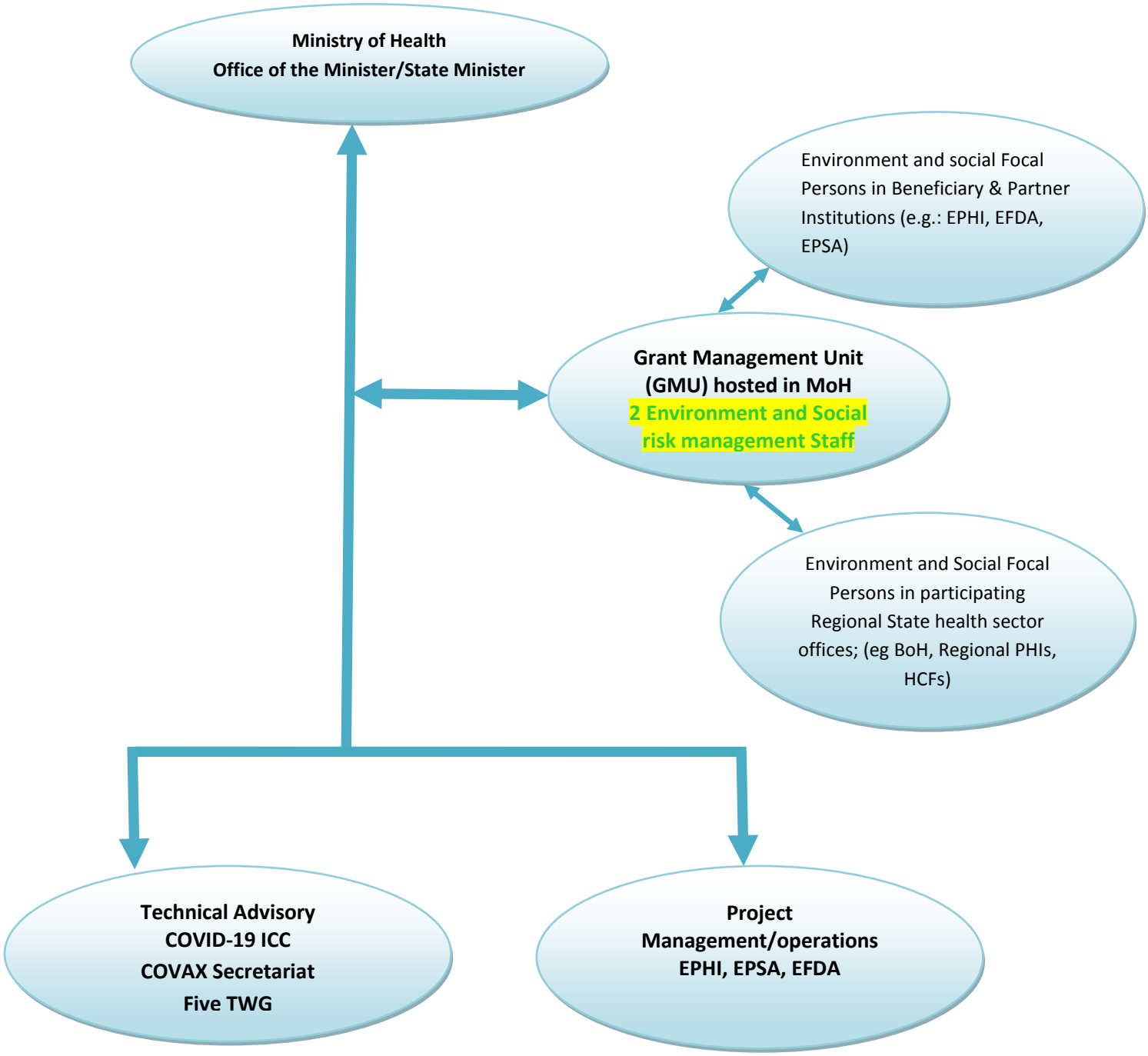
9.2.1.1 Ministry of Health

The Implementing entity for the AF project is the Ethiopian Ministry of Health (MOH) in partnership with EPHI and its regional counterparts. The MOH is responsible for:

- Ensuring that the required E & S screening reports, management plan(s) (i.e. an ESIA and/or stand-alone management plan) are developed, disclosed for public consultation and approved, and management measures are adopted and integrated during project implementation;
- Ensuring all requirements of WBs ESS and national regulatory/policy frameworks and relevant international standards have been addressed (e.g. mitigation of identified adverse social and environmental impacts);

- Procurement of goods and services, including human resources required to ensure compliance with this ESMF;
- Project planning, coordination, management, monitoring, evaluation and reporting.
- Reporting, fairly and accurately, on project progress against agreed work plans in accordance with the reporting schedule and required formats;
- Maintaining documentation and evidence that describes the proper and prudent use of project resources in conformity to the signed Project Document and in accordance with applicable regulations and procedures;

Figure 6 : Proposed institutional arrangement for ESMF implementation



9.2.1.2 The Ethiopian Public Health Institute (EPHI)

EPHI will also serve as the key technical and implementing entity. It will both support the GMU/PCD/ and directly implement certain technical activities and procurement of laboratory equipment and ICT systems. The EPHI will report directly to the State Minister, and it will share the project's technical and financial updates with the MOH steering committee, PCD - GMU and Office of the Minister of Programs. EPHI's role includes the following:

- Provide technical guidance on implementation of this ESMF and administrative assistance in recruiting and contracting expert safeguards services (as required) and monitor adherence of each project to the ESMF and WB standards.
- Provide oversight on all matters related to safeguards;
- Verify and document that all WB ESS requirements have been addressed;
- Ensure that the Compliance Review and the Stakeholder Response Mechanisms are operational during the lifetime of the projects;
- Inform all the stakeholders and right-holders involved in, or potentially impacted, positively or negatively, by the projects,

9.2.1.3 The Grant Management Unit

The Grant Management Unit will be responsible for carrying out stakeholder engagement activities, while working closely together with other entities, such as local government units, media outlets, health workers, etc. The stakeholder engagement activities will be documented through quarterly progress reports or best practices, to be shared with the World Bank and disseminated in relevant forums. GMU's role includes the following

- Supervise and manage implementation of measures defined in this ESMF;
- Assign specific responsibilities for implementation of this ESMF, including monitoring, and community consultations on the draft management plans to a staff member(s) of the PMO;
- Maintain relevant records associated with management of environmental and social risks, including E&S screening reports, ESMPs, impact assessments, a log of grievances together with documentation of management measures implemented;
- Report to the Implementing Partner, Office of the State Minister on the implementation of the ESMF;
- Ensure that all service providers are informed of their responsibilities for the day to day compliance with the ESMF.

10. Capacity Building and Training requirements

One of the capacity building areas for Lead implementing institution (MOH) and the Partner Institutions (EPHI) involved in the implementation of the AF subprojects is the provision of training. The training to be offered will also need to address target groups from different beneficiary (e.g.: focal persons from regional health sector bureaus & HCFs) and stakeholder institutions (e.g.: EFDA,

EPSI) which will have a role in implementing the ESMF at various levels. The training is also necessary for high level project coordination and management groups, (such as members of Grant Management Unit) as well as to relevant members of the broader beneficiary community to create awareness on environment management aspects of the AF Project. As a result, the type of trainings necessary to these various target groups will vary and is briefly outlined as the followings:

a. Technical training on ESMF

This detailed training will mainly focus on the technical staffs that will be involved in directly applying the ESMF procedures. It includes the E&S experts in GMU at the lead implementing agency (MOH and EPHI), E&S Focal Persons, at beneficiary and stakeholder institutions, member of technical working groups will have to participate in the training to facilitate for smooth implementation of AF ESMF. The training will focus in explaining the details of the National and World Bank environmental requirements and the procedures that need to be fulfilled to comply with it. Implementation of the ESMF including all aspects of the World Bank ESSs, environmental management, EIA, public consultation, and integration of environmental management into development planning will be the center topics for the training. The training would also cover skills upgrading refreshment topics such as, environmental and social screening and categorization processes, EIA review and quality assurance, environmental audits, environmental guidelines and others as necessary. Detailed topics that would need to be covered by the training include the following:

- ✓ Overview of enabling policy, legal and institutional framework for ESMF
- ✓ Basic principles of ESMF,
- ✓ Potential Environmental and Social Impacts for Ethiopia COVID-19 ERP and AF Project,
- ✓ Environmental and social screening process,
- ✓ Assignment of environmental categories,
- ✓ Scoping and the preparation of preliminary and full ESIAs
- ✓ Preparation of terms of reference for carrying out ESIA/ESMPs,
- ✓ Review and clearance of the screening results and separate ESIA/ESMP reports,
- ✓ Supervision, monitoring, evaluation and environmental reporting;
- ✓ Participatory public consultation and engagement,
- ✓ Gender Based Violence (GBV) prevention and Control
- ✓ Grievance Redress Mechanisms (GRM) of the AF Project, Stakeholders Engagement
- ✓ Public consultation process in view of the ESMF requirements,
- ✓ Discussion of, and amendments to, the environmental and social screening form.
- ✓ Infection Control and Waste Management Plan (ICWMP) Preparation
- ✓ Risk Communication and Community Engagement

The GMU environmental and social risk management staff will offer an induction session for Grant Management Units in partner and beneficiary institutions on ESMF responsibilities and approaches. The MOH/EPHI will provide advice to project teams as needed to support the implementation of this ESMF and the preparation, implementation and monitoring of social and environmental management plans/measures.

Table 6: Training activities with estimated budget for implementation

No	Training topic	Target group	Estimated Cost(in USD)
1	Technical training on ESMF	E & S focal persons and pertinent healthcare staff (Assume 100 participants x USD 200 pd x 5 days + stationary+ trainers cost)	100,000.00
2	Risk communication and community engagement, GBV and GRM trainings	Assume 50 participants x USD 200 pd x 3 days + stationary+ trainers cost)	30,000.00
Total			130,000.00

11. Labour Management Procedure (LMP)

A standalone LMP with detailed information in terms of identifying type of workers, risks and mitigation measures is being prepared. The following sections provides a summary of the risks and mitigation measures of risks for project workers.

11.1 **Project Labour Use**

To deliver the '*AF and restructuring of the Ethiopia COVID-19 Emergency Response*' project, the use of government and private human resources (HR) is anticipated at all levels from Federal to *woreda*/*kebele*. The GoE recognizes that comprehensive management of the HRs is important in augmenting the positive outcomes of the project. As a result, the updated Labour Management Procedures (LMP) have been developed.

Different categories of workers are expected to work on the Project. Although precise figures cannot be provided at this point on planned number of workers as it might change depending on circumstances and phases of the Project, it is estimated a total of ***105,400*** people will be involved in the project work. The majority of workers are expected to be existing government civil servants, especially those working in the heath sector. Existing civil servants will remain subject to the terms and conditions of their existing sector employment. Additional staff who may be directly engaged (Direct workers) to support the Project will need to be contracted in line with the requirements of ESS2 in relation to Labour and working conditions, non-discrimination and equal opportunities and occupational health and safety.

The Project will use Direct workers, Contracted workers, and Community workers. However, it will not use primary supply workers and migrant workers.

11.2 ***Key Labour Risks***

Most activities supported by this AF project are being conducted by health – and laboratory workers, i.e., civil servants employed by the Government of Ethiopia. Activities encompass thereby treatment of patients as well as assessment of samples and provision of vaccines. Key risks related to the project continue to be public and occupational health risks deriving from engagement with people and samples contaminated with COVID-19. The most significant of these risks are:

- *Occupational health and safety*: There are risks to COVID-19 infections for all workers engaged in project activities, as well as mental issues or burnout as a result of the

outbreak. There are also occupational health and safety risks associated with the small scale refurbishing of the existing health infrastrure such as repair, rehabilitation and construction of handwashing stations. Mitigation measures would include applying safe working practices, engaging trained workers, and using enough and suitable personal protective equipment (PPE). Additionally, the project will have in place and implement a simple action plan to cope with emergencies (fire, earthquake, floods, COVID-19 outbreak).

- *GBV, sexual exploitation and abuse, and sexual harassment*: these concerns are expected on vulnerable worker women at the isolation, quarantine and treatment centers and vaccination sites/facilities. On the other hand, quarantine measures and fears over contracting the virus, and as well as restriction of movement, school closures, social isolation, lost jobs, among others, may exacerbate household tension, thus increase this type of violence. Also, young worker females may be at risk of being involved in misconduct behaviours, while engaged in the project. Mitigation measures would include: preparing awareness materials that would guide on how to deal with anxiety and stress and connect with possible support organizations; ensure mental health facilities are well-resourced and support NGOs in increasing their services, as well as dedicating hotlines and appropriate reporting mechanisms; apply ethics and professional code of conduct and provide gender-sensitive infrastructure; and strengthen workers' respect to local cultures through engaging them in community interaction trainings. Moreover, under the parent project, the GoE has prepared **Covid-19** focused operating procedures and tools, and monitor their use and adherence at these facilities. The project will continue to include messages related to GBV and SH, as well as GBV referral services, which, including legal protection and hotlines, are being made available free of charge. The contractors will maintain labour relations with local communities through a code of conduct (CoC), which commits all persons engaged by the contractor to acceptable standards of behaviour.

- *Labour disputes over terms and conditions of employment*: including limited employment opportunities, wages, delays of payment, overtime, rest time, and health and safety concerns. Employers may also retaliate against workers for demanding legitimate working conditions or raising concerns regarding unsafe or unhealthy work situations, or any grievances raised, such situations could lead to labour unrest and work stoppage. The project will ensure that Ethiopian Labour laws are complied with and a worker's GRM

will be setup as stipulated in Labor Management Plan (LMP) for the project. Furthermore, the employer is required to pay overtime in compliance with national laws as well as support his employees with necessary health care, among other measures.

- *Risks of exposure to the virus*: community workers may contract the virus in line of duty due to crowded transport to duty stations, and lack of masks, particularly in remote areas. The project will refrain from using community volunteers to handle COVID-19 cases and they shall be trained in use and provided with necessary material for infection prevention, in addition to providing appropriate PPE to all workers at the health care facilities.
- *Risks associated with medical waste management*.The MoH will put in place an appropriate Environmental Health and Safety (EHS) risk management system for proper collection, transportation, and disposal of hazardous medical wastes and for minimization of occupational health and safety risks, which will be strictly adhered to by all project implementation units.
- *Reprisals and retaliation against healthcare workers and researchers*. In the past, there have been incidents of reprisals and retaliation against researchers and health workers, which were mainly due to false rumours. This risk will be mitigated through explicit inclusion in robust stakeholder identification and consultation processes.
- *Child Labour:* In Ethiopia, child labour, for any person under the age of 18, is forbidden due to the hazardous work situation. The project may outsource minor works to contractors. To mitigate the risk of child labour, the contractor shall: (a) avoid employing people under 18, which will be included in the Contractors Code of Conduct; (b) learners should not be engaged in any construction related activities; and conduct community sensitizations on child labour; and (c) implement the worker GRM.

Generally, with respect to OHS at health care facilities, the project will refer to the national health policy, the contact management and testing strategy protocol, as well as the national guidelines for combating COVID-19, which provides detailed instructions on personal hygiene and using PPE at health workplace.

11.3 ***Grievance Mechanism***

In line with ESS2 provisions, the project will establish a functioning worker Grievance Mechanism (***WGM***) (that is available for all project workers) proportionate to the nature and scale of potential risks and impacts, promptly addresses worker concerns using

understandable and transparent process, operates independently and objectively, free of charge, builds on existing systems, allows anonymous complaints, non-discriminatory, and have a different and sensitive approach to GBV/SEA/SH-related cases, as well as allows access to other judicial or administrative remedies.

11.4 ***Implementation Responsibilities***

The project will be governed by the national labour requirements and the WB's safeguards standards and the ***PIU,*** housed in the Ministry of Health (**MoH),** has the overall responsibility to oversee all aspects of the implementation of the LMP, *in particular to ensure contractors' compliance*.

12. Grievance Redress Mechanism

The main objective of a Grievance Redress Mechanism (GRM) is to assist to resolve complaints and grievances in a timely, effective and efficient manner that satisfies all parties involved. Specifically, it provides a transparent and credible process for fair, effective and lasting outcomes. It also builds trust and cooperation as an integral component of broader community consultation that facilitates corrective actions. Specifically, the GRM:

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

A Grievance Redress Mechanism (GRM) can be used as a tool to stay engaged with communities and receive information from them when other direct measures for stakeholder engagement and consultations are more limited during the outbreak of infectious diseases like COVID19 pandemic. The existence of the grievance mechanism will be communicated to all stakeholder groups via the channels used to reach these groups for stakeholder consultations, including advertising it in local radios, newspapers and/or local noticeboards. The Project will provide a summary of the implementation of the grievance mechanism to the public on a regular basis, after removing identifying information on individuals to protect their identities.

12.1 ***Description of GRM***

The GRM will be developed and applied to meet the needs of affected people, be cost-effective, accessible, designed to take into account culturally appropriate ways to handle community concerns, and work based on a well-defined time schedule.

The project will also establish complaint and feedback mechanisms in the quarantine, treatment and isolation and vaccination centres on any issues including reporting SEA and quality of services. Hotline services for complaint handling has been established and adequately communicated to the public including people in the treatment, isolation and quarantine centres. The national and local call centres have been established and running the national toll-free numbers # 8335, and #953. Eleven health bureaus and city administrations also have local call centres. Further, the MoH, EPHI and professional societies have launched Covid-19 messaging groups on web pages. Further, Grievances

will be handled at the Woreda level by the Woreda Grievance Office and on the regional level by BoH and national level by MoH. The GRM will also be used by volunteers who will be involved in the implementation of the risk communication and citizen engagement strategy as well as this SEP and contractors' workers that might be engaged for rehabilitation of health facilities including quarantine and treatment centres (if any). All other workers including health professionals and workers at MoH, EPHI, regional and woreda level are civil servants, whose salaries are financed through government funds and for whom the Ethiopian regulations for civil servants apply. As such, only the provisions on Occupational Health and Safety as well as protection in the work force (child and forced labor prohibition) applies which both requirements are adequately provided in the project ESMF.

The GRM will include the following steps:

Step 0: Grievance discussed with the respective health facility

Step 1: Grievance raised with the Woreda Grievance Office

Step 2: Appeal to the Regional (or, where available, Zonal) Grievance Office

Step 3: Appeal to the Ethiopia Independent Ombudsman and/or the Ministry of Health

Once all possible redress has been proposed and if the complainant is still not satisfied then they should be advised of their right to legal recourse. In the instance of the COVID 19 emergency, existing grievance procedures should be used to encourage reporting of co-workers if they show outward symptoms, such as ongoing and severe coughing with fever, and do not voluntarily submit to testing.

Educational materials are produced by MOH and professional societies and translated in four local languages (Amharic, Tigrigna, Oromiffa and Somali) and further translation will be provided on the ground to people not able to speak those languages. Additionally, the Minister and other Authorities periodically share updates to the wider public including using sign languages to reach to people with hearing limitation.

The MOH Directorate reviews public feedback and grievances shared on social media and use the social media analysis to inform content messaging. Additionally, MOH has launched a dedicated toll-free call centre/hotline established for Covid-19 response. The public has access to call centres at central/Federal, and regional levels and free of charge. Stakeholders, primarily the Ministry, Media and the EOC currently promote use of the call centre and publicised the telephone numbers dedicated for this purpose.

MOH facilitates that every health facility conducts a patient satisfaction surveys and clinical audits to identify limitation and best practices and incorporate the feedback from patients and clinical audit findings to improve quality of care processes and protocols.

With the introduction of the vaccines, there should be a mechanism to monitor the safety of the vaccine. As this is a new vaccine developed using technologies that were not tested in the past against a novel virus, a real-time monitoring of monitoring, knowledge sharing and communication mechanisms to warrant that any safety concern can be identified early and investigated in a timely manner, safeguarding the health of target populations and, ultimately, maintain trust in the immunization programs and the health systems. Any adverse event following immunization (AEFI) detected will be urgently notified, reported, investigated and analyzed. WHO's COVID-19 vaccines safety manual will be adopted and used to facilitate this.

13. Annexes

Annex I: Abbreviations

AFB	Acid-Fast Bacilli
AEFI	Adverse Event Following Immunization
AF	Additional Financing
AMR	Antimicrobial Resistance
BCG	Bacillus Calmette–Guérin
BMBL	Biosafety in Micro Biological and Biomedical Laboratories
BMWM	Bio Medical Waste Management BSC
BSC	Biological Safety Cabinets
BSL	Biosafety Level
CDC	Centre for Disease Control and Prevention
CoC	Code of Conduct
COVID-19	Coronavirus Disease 2019
DPT/DTP	Diphtheria and tetanus toxoids and whole-cell pertussis
EFDA	Ethiopian Food and Drug Administration
EOC	Emergency Operating Centre
EPHI	Ethiopia Public Health Institute
EPI	Expanded Program for Immunization
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESS	Environmental and Social Standard
ESSS	Environmental and Social Safeguard Specialists
ESIA	Environmental and Social Impact Assessment
ESHS	Environmental, Social, Health and Safety
EHS	Environment, Health and Safety
ERP	Emergency Response Plan
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FDRE	Federal Democratic Republic of Ethiopia
GBV	Gender Based Violence
GoE	Government of Ethiopia
GMU	Grants Management Unit
GRM	Grievance Redress Mechanism
HCF	Health Care Facility
HCW	Health Care Waste
HCWMS	Healthcare Waste Management System
HEPA	High Efficiency Particulate Air filter
HIV	Human Immunodeficiency Virus
HPV	Human Papillomavirus

HR	Human Resource
HVAC	Heating, Ventilation and Air Conditioning
ICC	Inter-Agency Coordination Committee
ICWMP	Infection Control and Waste Management Plan
IPC	Infection and Prevention Control
IPV	Inactivated Poliovirus Vaccine
LMP	Labor Management Procedure
MPA	Multiphase Programmatic Approach
NGO	Non -Governmental Organization
NITAG	National Immunization Technical Advisory Group
OHS	Occupational Health and Safety
OPV	Oral Polio Vaccine
PCV	Pneumococcal Conjugate Vaccine
PDO	Project Development Objective
PIM	Project Implementation Manual
PIU	Project Implementation Unit
POE	Point of Entry
PPE	Personal Protective Equipment
SA	Social Assessment
SEA	Sexual Exploitation and Abuse
SEP	Stakeholder Engagement Plan
SH	Sexual Harassment
SOP	Standard Operating Procedures
SPRP	Strategic Preparedness and Response Plan, also known as Global COVID-19 MPA
TA	Technical Assistance
UNICEF	United Nations International Children's Emergency Fund
VAC	Vaccine Approval Criteria
WB	World Bank
WHO	World Health Organization
WWTP	Wastewater Treatment Plant

Annex II: ES Screening form

I. Screening Template for Potential Environmental and Social Issues

This form is to be used by the ES risk management specialists of the Grant Management Unit (GMU) and ES focal persons at partner and beneficiary institutions to screen for the potential environmental and social risks and impacts of a proposed subproject. Sub project refers to the set of activities derived from the Ethiopia COVID-19 ERP AF Component and sub-component activities including technical assistance studies and consultancies for which support through investment project financing is sought by the client. Subproject ES measures therefore apply to HCF where investments have been made. It will help the GMU, partner and beneficiary institutions ES specialists/focal persons in identifying the relevant Environmental and Social Standards (ESS), establishing an appropriate ES risk rating for these subprojects and specifying the type of environmental and social assessment required, including specific instruments/plans. Use of this form will allow the GMU to form an initial view of the potential risks and impacts of a subproject***. It is not a substitute for project-specific ES assessments or specific mitigation plans.***

A note on *Considerations and Tools for ES Screening and Risk Rating* is included in this Annex to assist the process.

Subproject Name	
Subproject Location	
Subproject Proponent	
Estimated Investment	
Start/Completion Date	

Subproject eligibility check:

Subproject eligibility/ exclusion criteria question	**Yes**	**No**
1. Will the subproject involve activities that may cause long term, permanent and/or irreversible (e.g. loss of major natural habitat) impacts?		
2. Will the subproject involve activities that have high probability of causing serious adverse effects to human health and/or the environment other than during treatment of COVID-19 cases?		

Subproject eligibility/ exclusion criteria question	Yes	No
3. Will the subproject involve activities that may have significant adverse social impacts and may give rise to significant social conflict?		
4. Will the subproject involve activities that may affect lands or rights of historically marginalized people or other vulnerable minorities?		
5. Will the subproject activities likely to involve permanent resettlement or land acquisition or impacts on cultural heritage?		
6. Has subproject activity been prohibited in the ESMF for Vaccine Additional Funding?		
If any of the above questions are answered as "Yes", the proposed subproject is not eligible for financing under this ERP.		

Questions	**Answer**		**ESS relevance**	**Due diligence / Actions**
	Yes	no		
Does the subproject involve civil works including new construction, expansion, upgrading or rehabilitation of healthcare facilities and/or waste management facilities? Could climate change or extreme weather adversely impact the project?			ESS1	ESIA/ESMP, ICWMP, SEP
Does the subproject involve restrictions on land use?			ESS5	SEP
Does the subproject involve acquisition of assets for quarantine, isolation or medical treatment purposes?			ESS5	
Is the subproject associated with any external waste management facilities such as a sanitary landfill, incinerator, or wastewater treatment plant for healthcare waste disposal?			ESS3	ESIA/ESMP, ICWMP, SEP
Is there a sound regulatory framework and institutional capacity in place for healthcare facility infection control and healthcare waste management?			ESS1	ESIA/ESMP, ICWMP, SEP
Does the subproject have an adequate system in place (capacity, processes and management) to address waste?				
Does the subproject involve recruitment of workers including direct, contracted, primary supply, and/or community workers?			ESS2	LMP, SEP
Does the subproject have appropriate OHS procedures in place, and an adequate supply of PPE (where necessary)?				
Does the subproject have a GRM in place, to which all workers have access, designed to respond quickly and effectively?				

Does the subproject involve trans boundary transportation (including Potentially infected specimens may be transported from healthcare facilities to testing laboratories, and transboundary) of specimen, samples, infectious and hazardous materials?			ESS3	ESIA/ESMP, ICWMP, SEP
Does the subproject involve use of security or military personnel during construction and/or operation of healthcare facilities and related activities?			ESS4	~~ESIA/ESMP~~, SMP,SEP
Is the subproject located within or in the vicinity of any ecologically sensitive areas?			ESS6	ESIA/ESMP, SEP
~~Are there any indigenous groups (meeting specified ESS7 criteria) present in the subproject area and are they likely to be affected by the proposed subproject negatively or positively?~~			~~ESS7~~	~~Indigenous Peoples Plan/other plan reflecting agreed terminology~~
Is the subproject located within or in the vicinity of any known cultural heritage sites?			ESS8	ESIA/ESMP, SEP
Does the project area present considerable Gender-Based Violence (GBV) and Sexual Exploitation and Abuse (SEA) risk?			ESS1	ESIA/ESMP, SEP
Does the subproject carry risk that disadvantaged and vulnerable groups may have inequitable access to project benefits?			ESS1	ESIA/ESMP, SEP
~~Is there any territorial dispute between two or more countries in the subproject and its ancillary aspects and related activities?~~			~~*OP7.60 Projects in Disputed Areas*~~	~~Governments concerned agree~~
~~Will the subproject and related activities involve the use or potential pollution of, or be located in international waterways[6]?~~			~~*OP7.50 Projects on International Waterways*~~	~~Notification (or exceptions)~~

Conclusions:

1. **Proposed project is eligible for financing under the project criteria**

   ……..

2. **Proposed Environmental and Social Risk Ratings (High, Substantial, Moderate or Low)** based on the World Bank Environmental and Social Directive for Investment Project Financing of Jan 28, 2020. Available at: https://ppfdocuments.azureedge.net/698faa01-d052-4eb3-a195-055e06f7f3fd.pdf. **Provide Justifications**

   ……..

3. **Proposed ES Management Plans/ Instruments** among ~~ESMP~~; preliminary or full ESIA, or Technical Assistance.

   ……..

[6] 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.

INFECTION CONTROL: CONSIDERATIONS AND TOOLS TO ASSIST IN ES SCREENING AND RISK RATING:

In the context of global COVID-19 outbreak, many countries have adopted a containment strategy that includes extensive testing, quarantine, isolation and treatment either in a medical facility or at home.

A COVID-1 9 response project may include the following activities:

- construction of and/or operational support to medical laboratories, quarantine and isolation centers at multiple locations and in different forms, and infection treatment centers in existing healthcare facilities
- procurement and delivery of medical supplies, vaccines, equipment and materials, such as reagents, chemicals, and Personal Protective Equipment (PPEs)
- mass deployment of a safe and effective vaccine
- transportation of potentially infected specimens from healthcare facilities to testing laboratories
- construction, expansion or enhancing healthcare waste and wastewater facilities
- training of medical workers and volunteers
- community engagement and communication

1. Screening ES Risks of Medical laboratories

Many COVID-19 projects include capacity building and operational support to existing medical laboratories. It is important that such laboratories have in place procedures relevant to appropriate biosafety practices. The WHO advises that non-propagative diagnostic work can be conducted in a Biosafety Level 2 (BSL-2) laboratory, while propagative work should be conducted at a BSL-3 laboratory. Patient specimens should be transported as Category B "infectious substance" (UN3373), while viral cultures or isolates should be transported as Category A "Infectious substance, affecting humans" (UN2814). The process for assessing the biosafety level of a medical laboratory (including management of the laboratory operations and the transportation of specimens) should consider both biosafety and general safety risks. OHS of workers in the laboratory and potential community exposure to the virus should be considered.

The following documents provide further guidance on screening of the ES risks associated with a medical laboratory. They also provide information for assessing and managing the risks.

- WHO; Prioritized Laboratory Testing Strategy According to 4Cs Transmission Scenarios
- WHO Covid-19 Technical Guidance: Laboratory testing for 2019-nCoV in humans:
- WHO Laboratory Biosafety Manual, 3rd edition
- USCDC, EPA, DOT, *et al*; Managing Solid Waste Contaminated with a Category A Infectious Substance (August 2019).

2. Screening ES Risks of Quarantine and Isolation Centers

According to WHO:

- **Quarantine** is the restriction of activities of or the separation of persons *who are not ill but who may have been exposed to* an infectious agent or disease, with the objective of monitoring their symptoms and ensuring the early detection of cases.
- **Isolation** is the separation of *ill or infected persons* from others to prevent the spread of infection or contamination.

Many COVID-19 projects include construction, renovation and equipping of quarantine and isolation centers at Point of Entry (POE), in urban and in remote areas. There may also be circumstances where tents are used for quarantine or isolation. Public or private facilities such as a stadium or hotel may also be acquired for this purpose.

In screening for ES risks associated with quarantine and isolation, the following may be considered:

- contextual risks such as conflicts and presence or influx of refugees
- construction and decommissioning related risks
- ascertain that land or asset acquisition is not required for ERP activities
- ascertaining that security personnel or military forces are not used in ERP activities
- availability of minimum requirements of food, fuel, water, hygiene
- whether infection prevention and control, and monitoring of quarantined persons can be carried out effectively
- whether adequate systems are in place for waste and wastewater management
- provision of accurate information to ill, infected or exposed persons in a simple, accessible and culturally appropriate manner

The following documents provide further guidance regarding quarantine of persons.

- WHO; Considerations for quarantine of individuals in the context of containment for coronavirus disease (COVID-19)
- WHO; Key considerations for repatriation and quarantine of travelers in relation to the outbreak of novel coronavirus 2019-nCoV
- WHO; Preparedness, prevention and control of coronavirus disease (COVID-19) for refugees and migrants in non-camp settings

3. SCREENING E&S RISKS OF TREATMENT CENTERS AND FOR DEPLOYMENT OF VACCINES

WHO has published a manual that provides recommendations, technical guidance, standards and minimum requirements for setting up and operating severe acute respiratory infection (SARI) treatment centers in low- and middle-income countries and limited-resource settings, including the standards needed to repurpose an existing building into a SARI treatment center, and specifically for acute respiratory infections that have the potential for rapid spread and may cause epidemics or pandemics.

- WHO Severe Acute Respiratory Infections Treatment Centre
- WHO Covid-19 Technical Guidance: Infection prevention and control / WASH
- WBG EHS Guidelines for Healthcare Facilities
- WHO: Diagnostics, therapeutics, vaccine readiness, and other health products for COVID-19

4. SCREENING ES RISKS RELATING TO LABOR AND WORKING CONDITIONS

A COVID-19 project may include different types of workers. In addition to regular medical workers and laboratory workers who would normally be classified as direct workers, the project may include contracted workers to carry out construction and community workers (such as community health volunteers) to provide clinical support, contact tracing, and data collection, etc. The size of the workforce engaged could be considerable. Risks for such a workforce will range from occupational health and safety to types of contracts and terms and conditions of employment. Further details relevant to labor and working conditions for COVID-19 projects are discussed in the LMP template for COVID-19.

Certification

<table>
<tr><td colspan="4">Reviewed and approved by</td></tr>
<tr><td colspan="2">Coordinator

Name:</td><td colspan="2">Project Environmental and Social staff/ member

Name:</td></tr>
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Annex III: Environmental and Social Management Plan (ESMP) Template

Introduction

An Environmental and Social Management Plan (ESMP) for a proposed subproject is setting out how the environmental and social risks and impacts will be managed through the project lifecycle. This ESMP template includes several matrices identifying key risks and setting out suggested ES mitigation measures. The HCF will develop ESMPs jointly with SPIU for each of the ERP-financed activities with identified ES risks. These matrices can be used to assist in identifying risks and possible mitigations.

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

The matrices illustrate the importance of considering lifecycle management of ES 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 Bank financed healthcare sector projects. The Borrower should review and add to them during the environmental and social assessment of a subproject.

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 Borrower 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.

The Infection Control and Waste Management Plan forms part of the ESMP. The ESMP should identify other specific ES management tools/instruments, such as the Stakeholder Engagement Plan (SEP), labor management procedures (LMP), and/or Medical Waste Management Plan.

Table 7: Environmental and Social Risks and Monitoring Measures during planning and design phase

Key Activities	Potential E & S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Budget
1.Identify the type, location and scale of healthcare facilities (HCF) or facilities to be used for deployment of vaccines, including whether the operations of the facilities could be adversely impacted by climate change or extreme weather	- The suitability and capacity of the candidate HCFs for vaccine deployment and administration will determine potential E & S risks to occur. - Extreme weather (i.e. very hot weather) can affect vaccine deployment by affecting its potency.	➢ Consider the capacity of existing facilities, and plan to increase capacity, if necessary, through refurbishment, expansion etc. ➢ Ensure the location of the identified HCF is away from sensitive ecological and heritage sites. ➢ Ensure the HCF is equipped with facilities that enable to combat effects of extreme weather (i.e. very hot weather) during vaccine deployment and administration.	MoH, EPHI, BoH GMU E&S staff and E&S Focal persons in partner institutions.	Part of the operational budget of AF project.
2.Identify onsite and offsite waste management facilities, and waste transportation routes and service providers	Inadequate facilities and inadequate processes for treatment of waste will affect the environment and public health	Prepare a subproject specific ICWMP according to Annex IV template including; ➢ Estimate potential waste streams, including sharps and vaccine program wastes ➢ Consider the capacity of existing facilities, and plan to increase capacity, if necessary, through expansion, refurbishment, 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 color coded and labeled 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.	GMU E&S staff and E&S Focal persons in partner & beneficiary institutions. HCF staff	Part of the operational budget of AF project.

		Design training for staff in the segregation of wastes at the time of use		
3.Identify needs for workforce and type of project workers for upgrading and/or rehabilitation	➢ Doing hazardous work such as working at heights or in confined spaces, use of heavy machinery, or use of hazardous materials ➢ Likely presence of migrants or seasonal workers ➢ ~~Risks of labor influx or gender based violence~~ ➢ Possible accidents or emergencies, with reference to the sector or locality ➢ Inadequate understanding and implementation of occupational health and safety requirements	➢ Identify numbers and types of workers Consider accommodation and measures to minimize cross infection: If possible, sites shall be on the outskirts of cities to avoid unnecessary interaction with the public when delivering services to and from the facilities however, since the government is using existing sites, security measures should be enhanced around the quarantine areas ➢ People living in the environs of a quarantine/isolation centers and health facilities shall be given accurate information on the pandemic and receive updates on COVID-19. ➢ See COVID-19 LMP in Annex IX to identify possible mitigation measures.	-GMU E&S staff -E&S Focal persons in partner & beneficiary institutions. - Design & supervision engineers. - Refurbishment Contractor	Part of the operational budget of AF project.
~~4.HCF design general~~	~~Structural life and fire safety risk;~~ ~~Functional layout and engineering control for nosocomial infection~~			
5.Design of upgrading and/or rehabilitation of facilities for laboratory tests, triage, isolation or quarantine.	Upgrade/refurbishment/rehabilitation design flaws for laboratories, isolation and treatment centers may not meet standards and could cause personnel to be exposed to infectious diseases and occupational health hazards.	➢ The design for refurbishment, set up and management of laboratories, isolation and treatment centers will take into account the advice provided by WHO guidance for Severe Acute Respiratory Infections Treatment Center. ➢ All the new refurbishment construction designs shall consider the concept of universal access that allows for unimpeded access for all people of different ages and abilities. This shall include provision of the ramps, elevators and toilets for the disabled. ➢ Hand washing facilities should be provided at	GMU E&S staff - E&S Focal persons in partner & beneficiary institutions. - Design & supervision engineers. - Subproject management	Part of the operational budget of AF project.

		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.		
6.Design to consider mortuary arrangements	Insufficient capacity would lead to risk of 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)	HCF staff	
7.Identify the needs for an effective communication campaign on vaccination, including tailored outreach to different groups (including	- Risk of misinformation and rumors affecting voluntary vaccination operations - Risk of Stigma for COVID-19 patients	- implement the "Risk Communication and Community Engagement" (RCCE) strategy - ensure that information is meaningful, timely, and accessible to all affected stakeholders as well as to challenges deriving from illiteracy or disabilities.	MoH, EPHI, GMU and Regional Health Bureaus.	Part of AF project operational budget

disadvantaged and vulnerable groups), with different partners		- disclosure of appropriate information considering the specific challenges associated with COVID-19, including the vaccination campaign - conduct rumors and misinformation monitoring, analysis and provid response.		
8.Nosocomial Infection Control	There is a significant risk of contracting COVID-19 within a hospital facility if its design has not taken this risk into consideration. Health services (public and private facilities) are expected to conceptually meet the quality standards of ISO 9000 and ISO 14000 series although this is not the case in most health facilities in the developing countries. Thus the renovation plans and designs that shall be prepared for the isolation /quarantine units in the health facilities should be reviewed and approved by an infection control personnel/public health to ensure the required measures are adequately incorporated in the designs.	• Building designs of the renovated health facilities shall be in line with the national building code and the standard health care setting building designs. • Traffic flow shall be considered to minimize exposure of high risk patients and facilitate patient transport. • Adequate spatial separation of patients is key, the patients care areas shall be stratified by risk of the patient population for acquisition of infections. The four main degrees of risk to be considered include; Low risk areas e.g. administrative sections, moderate risks e.g. regular patient units, high risk areas e.g. isolation units, intensive care units, very high risk e.g. operating rooms. • Adequate number and type of isolation rooms shall be provided with a minimum of at least 1m space separation between patients to reduce transmission of infections as well as allow ease in access of health care workers to attend to patients. The facility design shall also be easily accessible by the elderly as well as the persons with disability. • Health facilities shall have appropriate access to hand washing facilities with running water and hand hygiene supplies provided. Hand hygiene is extremely important in prevention against COVID-19. • Choice of construction materials for covering the	GMU E&S staff E&S Focal persons in partner & beneficiary institutions. HCF staff	Part of AF project operational budget

		internal surfaces (floors/walls) shall be easy to clean and resistant to hot water, detergents and disinfectants. The walls floors and ceiling surfaces as well as furniture and equipment used for patient care shall be smooth, made of non-porous material, easy to clean and do not provide suitable environment for pathogen survival. • Appropriate ventilation for isolation rooms and special patient care areas such as operating theatres and the transplant units) shall be acquired. Adequate ventilation systems require proper designs and maintenance to minimize risk of contamination and may help reduce spread of pathogens. • Water supply to the health facility shall be reliable and to the required standards to limit risk of infections. This can be achieved through treatment of water taken from the public network to ensure that the physical, chemical and bacteriological characteristics of water used in the health care institutions meet the local regulations, (WHO, 2002). • Lighting system of the health care facility shall be sufficient to ensure safe working conditions and security. • Provision of adequate and accessible toilets taking into consideration the gender aspect including separate facilities for confirmed and suspected cases of COVID -19; and • Provide separate spaces of children and young people to ensure their safety while in the health facilities.		

		• Provision of the right cleaning and disinfection chemicals and equipment. • In operating theatres and rooms for isolating particularly vulnerable patients (e.g. severely immune-compromised patients) they may require positive air pressure conditions, where clean air is drawn into the room, thus avoiding contaminated air entering from other parts of the health care setting, • It would be critical to have separate rooms for people requiring special care and vulnerable people such as persons with disabilities and older persons. • Provision of the right receptacles for waste handling and containment including considerations on waste transfer to provide for minimal disruptions and avoidance of contamination of clean areas during waste collection and on site transportation. ➢ Provisions relating to putting in place other standard precautions must be ensured in order to assure cutting transmission of such nosocomial infections.		

Table 8: Environmental and social risks and mitigation during construction stage

Activities	Potential ES Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Budget
1. Nosocomial Infection Control	- There is a significant risk of contracting COVID-19 within a hospital facility if its design has not taken this risk into consideration. Health services (public and private facilities) are expected to conceptually meet the quality standards of ISO 9000 and ISO 14000 series although this is not the case in most health facilities in the developing countries. Thus the renovation plans and designs that shall be prepared for the isolation /quarantine units in the health facilities should be reviewed and approved by an infection control personnel/public health to ensure the required measures are adequately incorporated in the designs.	• Building designs of the renovated health facilities shall be in line with the national building code and the standard health care setting building designs. • Traffic flow shall be considered to minimize exposure of high risk patients and facilitate patient transport. • Adequate spatial separation of patients is key, the patients care areas shall be stratified by risk of the patient population for acquisition of infections. The four main degrees of risk to be considered include; Low risk areas e.g. administrative sections, moderate risks e.g. regular patient units, high risk areas e.g. isolation units, intensive care units, very high risk e.g. operating rooms. • Adequate number and type of isolation rooms shall be provided with a minimum of least 1 meter space separation between patients to reduce on transmission of infections as well as allow ease in access of health care workers to attend to patients. The facility design shall also be easily accessible by the elderly as well as the persons with disability. • Health facilities shall have appropriate access to hand washing facilities with running water and hand hygiene supplies provided. Hand hygiene is extremely important in prevention against COVID-19. • Choice of construction materials for covering the internal surfaces (floors/walls)	GMU E&S staff E&S Focal persons in partner & beneficiary institutions. HCF management	Part of AF project operational budget

		shall be easy to clean and resistant to hot water, detergents and disinfectants. The walls floors and ceiling surfaces as well as furniture and equipment used for patient care shall be smooth, made of non-porous material, easy to clean and do not provide suitable environment for pathogen survival. • Appropriate ventilation for isolation rooms and special patient care areas such as operating theatres and the transplant units) shall be acquired. Adequate ventilation systems require proper designs and maintenance to minimize risk of contamination and may help reduce spread of pathogens. • Water supply to the health facility shall be reliable and to the required standards to limit risk of infections. This can be achieved through treatment of water taken from the public network to ensure that the physical, chemical and bacteriological characteristics of water used in the health care institutions meet the local regulations, (WHO, 2002). • Lighting system of the health care facility shall be sufficient to ensure safe working conditions and security. • Provision of adequate and accessible toilets taking into consideration the gender aspect including separate facilities for confirmed and suspected cases of COVID -19; and • Provide separate spaces of children and young people to ensure their safety while in the health facilities. • Provision of the right cleaning and disinfection chemicals and equipment. • In operating theatres and rooms for		

		isolating particularly vulnerable patients (e.g. severely immune-compromised patients) they may require positive air pressure conditions, where clean air is drawn into the room, thus avoiding contaminated air entering from other parts of the health care setting, • It would be critical to have separate rooms for people requiring special care and vulnerable people such as persons with disabilities and older persons. • Provision of the right receptacles for waste handling and containment including considerations on waste transfer to provide for minimal disruptions and avoidance of contamination of clean areas during waste collection and on site transportation. Provisions relating to putting in place other standard precautions must be ensured in order to assure cutting transmission of such nosocomial infections.		
2..Minor civil works activities – Occupational Health and Safety (OHS)	- OHS risks on health care providers and supportive staff due to improper work procedures, healthcare waste management	• Adopting and implementing safety guideline or manuals from OHS guideline[7] and WHO technical guideline for COVID-19 Key considerations for occupational safety and health[8]. • The contractor shall prepare an OSH plan for the construction works, and should include input from HCF personnel on potential health and safety risks associated with the HCF	E & S focal persons in beneficiary institutions (HCF) Design and Supervision Engineer	Part of AF project operational budget

[7] https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines
[8] https://www.who.int/publications-detail/coronavirus-disease-(covid-19)-outbreak-rights-roles-and-responsibilities-of-health-workers-including-key-considerations-for-occupational-safety-and-health

		• Restricting access to active renovation sites, including establishment of security perimeter.
		• Use institutional and administrative controls with a focus of high risk areas including:
		  ○ Screening off or fencing the site, and
		  ○ Provision of adequate signage and communication of risks to workers, patients and the health community.
		• The HCF staff, key service providers and the public should be notified of the works through appropriate publicly accessible sites such as the main entrance to the health facility.
		• Barricading the work areas to prevent entry of health staff and patients in the work sites.
		• Place adequate signboards to divert staff and passengers away from the work sites.
		• Use of screens/nets to avoid flying debris, ensure good housekeeping in the construction sites.
		• All workers should be adequately trained on the use of PPEs which they should wear at all times while at the worksite.
		• Contractor shall provide onsite toilet and washing water for workers.
		• The water storage tank shall be covered and properly managed to minimize mosquitoes breeding.
		• Traffic safety plan shall be established for each site by the contractor.
		• Safety perimeters shall be established around the hazardous areas (around overall construction site, at heights, around wet surfaces, excavated areas, etc.).		

		• Each site must maintain logs of injuries and fatalities. • Each site must establish a grievance redress mechanism to allow workers to raise safety issues and propose improvements on site. • A Safety and Health officer shall be designated at each site by the contractor.		
3..Minor civil works – traffic and road safety	- Traffic accidents due to moving machinery and equipment	• The contractor and the respective management of the health facilities shall develop traffic management plan, including segregating location of vehicle traffic, machine operation and walking areas, and controlling vehicle traffic through one-way traffic routes and setting of speed limits. • This can be achieved through use of one-way traffic routes, establishment of speed limits and onsite trained flag personnel wearing high visibility vests to direct traffic. • Contractor shall avoid the hospital peak hours for transport of the construction materials. • Warning signs shall be provided at the access roads to warn road users of heavy vehicles during transportation of construction material and equipment. • Contractor shall emphasize safety aspects among project drivers especially speed limits to the health facilities. • Contractors shall regularly inspect vehicle safety and employ trained drivers to minimize the accidents. • Trucks shall be covered with tarpaulin and have tailgates during haulage of construction materials and access roads sprayed with water to reduce on dust levels.	-GMU E&S staff -E&S Focal persons in partner & beneficiary institutions. - Design & supervision engineers. - Subproject management	0

		• Deploy flagmen at strategic areas during peak hours. • Ambulance drivers should follow guidance on safe emergency driving • Provide regular training to all workers on site to ensure familiarity with traffic safety measures		
4. .Minor civil works – use of external workforce	- GBV/SEA/SH issues	• Require each worker on site to sign a Code of Conduct. • strengthen workers' respect to local cultures through engaging them in community interaction trainings. • Disminating messages related to GBV and SH, as well as GBV referral services	GMU E&S staff -E&S Focal persons in beneficiary institutions. - Design & supervision engineers.	Part of project operation budget
5. Disruption of healthcare and other services	For HCFs under renovation which will not be closed, may cause temporary disruption in delivery of health services to patients at facilities under renovation. Temporary loss of access to utility services such as water and electricity	• Plan pre-construction activities shall be done early to identify suitable rooms or adjoining buildings into which patients or service areas can be relocated with minimal inconvenience, especially to patients under intensive care. • Advance relocation information shall be shared with the affected patients for their planning and mental preparedness. • Contractors shall work closely and harmoniously with healthcare facility administrators to find practical ways to minimize social cost of temporary disruption of services. • A grievance mechanism to address complaints from community shall be in place and awareness promoted.	-E&S Focal persons in beneficiary institutions (HCF). - Design & supervision engineers. - Subproject management (HCF)	Part of project operation budget
6. Cultural heritage	- Risk of affecting Cultural heritages during subproject activities	• Apply Chance-finds procedure (see Annex VI).	-E&S Focal persons in beneficiary institutions (HCF). - Design & supervision	- To be determined during the chance find

			engineers. - Subproject management (HCF)	
7. Emergency preparedness and response	➢ Fire - Chemical spill and other toxicity accidents - Loss of power due to adverse weather events.	➢ Emergency response plan for containment of fire accident ➢ Emergency response plan for containment of chemical spill ➢ Emergency response plan for provision of emergency energy supply • Training of HCF staff and contractors on the ERP application and relevant information, such as emergency contact information, evacuation routes, etc.)	-E&S Focal persons in beneficiary institutions (HCF). - Design & supervision engineers. - Subproject management (HCF) - Contractor	Part of project operation budget
8. Community exposure to work related hazards	- Construction work undertaken in the same buildings having patients has potential to cause injuries to patients or health workers.	• Restricting access to active renovation sites, including screening off the building being renovated or fencing the entire site to limit public access that is appropriate to the site; • Only authorized users should be allowed to enter project sites; • Use institutional and administrative controls with a focus of high risk areas including: • Provision of adequate signage and communication of risks to workers, patients and the health community; • The public shall be notified of the works through appropriate publicly accessible sites such as the main entrance to the health facility; • Contractors shall ensure measures on Safety and Health are enhanced such as; barricading the work areas to prevent entry of health staff and patients in the	-E&S Focal persons in beneficiary institutions (HCF). - Design & supervision engineers. - Subproject management (HCF)	Part of subproject implementation budget

		work sites, ensure safe access to the health facility if the building will be open to public; • The contractor shall place adequate signboards to divert staff and passengers away from the work sites; • Use of screens/nets to avoid flying debris, ensure good housekeeping in the construction sites; • All workers shall be adequately trained on the use of PPEs which they should wear at all times while at the worksite; • All visitor shall wear basic PPE; • Construction workers shall be aware of the sensitive nature of workplace they are operating in and advised to limit verbal noise; and • Contractor shall work closely with the administrators of health facilities to find practical ways to minimize temporal services disruption at the hospitals		
9. Minor civil works related to *onsite* waste management facilities, including temporary storage, incinerator (for district HCFs), sewerage / wastewater treatment works	➢ Improper storage of solid and hazardous waste resulting in soil pollution and risks. - Water pollution from construction wastes as well as on-site make shift toilets	➢ Collect and dispose wastes in designated disposal sites as required by the Local Authority ➢ At the commencement of construction, ensure the site has established arrangements for hazardous waste transportation and disposal (including medical waste) ➢ Provide appropriate and approved temporary toilets • Preparation of prior to commencement of activities ICWMP based on the template provided in Annex IV.	-E&S Focal persons in beneficiary institutions (HCF). - Design & supervision engineers. - Subproject management (HCF) - Contractor	Part of subproject implementation budget

10. Community exposure to health issues	Presence of migrant workers and the local community may lead to infection with COVID-19 and increased risk of communicable diseases, including HIV/AIDS	• Appropriate timely information be provided at all levels on risks of infection between community members and workers. • Raise awareness on appropriate behavior including prevention of infectious diseases and sexual harassment, exploitation and abuse. • Carry out HIV/AIDS awareness and control campaigns in the project targeting workers. • Have VCT services on site and encourage workers to undergo testing. • Provision of protective devices such as condoms. • Contractor code of conduct to promote appropriate behavior and ensure compliance with COVID 19 prevention measures ➢ In cases of COVID-19 at the construction sites, guidelines have been provided in this ESMF Annex III: Infection, Prevention and Control Protocol on minimization of exposure, training of staff and precautions and management of access and spread	-E&S Focal persons in beneficiary institutions (HCF). - Design & supervision engineers. - Subproject management (HCF) - Contractor	Part of subproject implementation budget
11. Procurement of medical supplies and equipment	➢ Poor quality equipment may exacerbate COVID19 fatality due to failure of operations especially life saving machines like ventilators. On the other hand, due to poor handling of samples collection and	• Adhere to the procurement plan for acquisition of all medical supplies and equipment from certified suppliers only. • Carry out due diligence for all potential suppliers to guarantee quality equipment and products. • WHO interim guidance on rational use of	-GMU E&S staff -E&S Focal persons in partner & beneficiary institutions. - Subproject Management	Part of subproject implementation budget

	packaging supplies, lab reagents, pharmaceutical supplies, health care waste management the use of lab PPE may lead to the spread of infections to the healthcare workers	PPE for COVID-19 provided further details on the types and quality of PPE that are required for different functions. ➢ The healthcare workers shall be provided with medical personal protective equipment (PPE) includes: Medical mask, Gown, Apron, Eye protection (goggles or face shield), Respirator (N95 or FFP2 standard), Boots/closed work shoes.		

Table 9: Environmental and social risks and mitigation measures during operational stage

Activities	Potential ES Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Budget
1. HCF operation - Infection control and waste management Plan -from activities in isolation and quarantine facilities; which need to be disposed of in an appropriate medical waste disposal facility. - sample collection activities from COVID-19 suspected patients, - laboratory practices and procedures (performing and handling of specimen and chemicals),	Improper medical waste management: Improper disposal of medical waste would have environmental and public health impacts: for example, open burning and incineration of medical wastes can result in emission of dioxins, furans and particulate matter, and result in unacceptable cancer risks under medium (two hours per week) or higher usage	Each health facility should prepare (prior to the start of operations under the project) an Infection Control and Waste Management Plan (ICWMP) based on the template provided in Annex IV and in accordance with national regulations.	-E&S Focal persons in partner & beneficiary institutions. -HCF staff	Part of project operational budget.
2. Procurement of medical supplies and safety gears.	Improper procurement of Medical Supplies and Equipment, including intensive care equipment and supplies	• Adhere to the procurement plan for acquisition of all medical supplies and equipment from certified suppliers only. • Carry out due diligence for all potential suppliers to guarantee quality equipment and products. • WHO interim guidance on rational use of PPE for coronavirus disease 2019 provided further details on the types and quality of PPE that are required for different functions.	- GMU -EPSA -EFDA -HCF management -E&S Focal persons in partner & beneficiary institutions.	Part of project operational budget.

		• The healthcare workers shall be provided with medical personal protective equipment (PPE) includes: Medical mask, Gown, Apron, Eye protection (goggles or face shield), Respirator (N95 or FFP2 standard), Boots/closed work shoes.		
3.General HCF operations: Wastewater and fecal waste	Isolation and quarantine facilities are associated with increased volume of wastewater and excreta. Liquid contaminated waste (e.g. pathological sample, blood, feces, urine, other body fluids and contaminated fluid) requires special handling, as it may pose an infectious risk to healthcare workers with contact or handle the waste. There is no evidence to date that the COVID-19 virus has been transmitted via sewerage systems with or without wastewater treatment.	• Inorganic waste should be given to the authorized vendor for free of cost for recycling; • Segregation, minimization and safe storage of potential sources of liquid wastes. • Install a sewer system to collect liquid waste from around a facility and carry it below ground to a central location for treatment. • Liquid waste originating from the laboratory should pass through a disinfection process before directing to the general sewer line. • People with suspected or confirmed COVID-19 disease should be provided with their own flush toilet or latrine. • Where this is not possible, patients sharing the same ward should have access to toilets that are not used by patients in other wards. • Each toilet cubicle should have 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 for COVID-19 patients, then the	-E&S Focal persons in partner & beneficiary institutions and HCF. -HCF management - Woreda and zone health offices	Part of project operational budget.

		toilets they share with other non-COVID-19 patients should be cleaned and disinfected at least twice daily by a trained cleaner wearing PPE (impermeable gown, of if not available, an apron, heavy-duty gloves, boots, mask and goggles or a face shield). • Health-care staff should have toilet facilities that are separate from those used by all patients. • A disinfection step may be considered if existing wastewater treatment system is not optimized to remove viruses. • Make sure all containers, drums and tanks that are used for storage are in good condition; • Take all precautionary measures when handling and storing fuels and lubricants, avoiding environmental pollution;		
4. Procurement, delivery and set up of equipment for the storage and handling of vaccines and associated medical equipment.	Surfaces of imported materials may be contaminated and handling and processing may result in spread of COVID-19.	Technical specifications for procuring equipment should require good hygiene practices in line with WHO technical guidance to be observed when preparing the procured goods. Check national and WHO technical guidance for latest information regarding transmission of COVID on packaging prior to finalization of working protocols at facilities.	- GMU -EPSA -EFDA -E&S Focal persons in partner & beneficiary institutions.	Part of project operational budget
5.Transport of goods or supplies, including the delivery, storage and handling of vaccine, specimen, samples, reagents, pharmaceuticals and	COVID-19 is spread by drivers during the transport and distribution of goods or supplies.	Good hygiene and cleaning protocols should be applied. During the transport, truck drivers should be required to wash hands frequently and /or be provided with hand sanitizer, and taught how to use it. Measures to minimize impacts during transportation, including hazardous materials	- GMU -EPSA -EFDA -E&S Focal persons in partner & beneficiary	Part of project operational budget

medical supplies		can be found in the EHSGs Traffic accidents occur during transportation of goods	institutions.	
6.HCF general operational hazards:	General operation of HCFs can involve vulnerability to spread of infection (especially during a pandemic) physical hazards, electrical and explosion hazards, fire, chemical use, ergonomic and radioactive hazards.	• Introduce Life and Fire safety and prevention measures including for extreme weather impacts • Health facilities should 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; ○ Appropriate Health Care Waste Management; • Health facilities should 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 in line with National guidelines for IPC in healthcare facilities and take into account guidance from WHO and/or CDC on COVID19 infection control, • Collection of samples, transport of samples and testing of the clinical specimens from patients meeting the suspect case definition should be performed in accordance with WHO interim guidance Laboratory testing for coronavirus disease 2019 (COVID-19) in	-E&S Focal persons in partner & beneficiary institutions and HCF. -HCF management - Woreda and zone health offices	Part of project operational budget

		suspected human cases. • Tests should be performed in appropriately equipped laboratories (specimen handling for molecular testing requires BSL-2 or equivalent facilities) and by staff trained in the relevant technical and safety procedures. • All hospitals and laboratories should prepare waste management procedures in accordance with the national requirements that outline waste segregation procedures, on site handling, collection, transport, treatment and disposal, and training of the staff. • 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. Health facilities shall establish and apply good practices line with WHO guidance on water, sanitation and waste management for COVID-19 and National guidelines for Infection Prevention and Control in the healthcare facilities. • Samples that are potentially infectious materials (PIM) need to be handled and stored as described in WHO document Guidance to minimize risks for facilities collecting, handling or storing materials potentially infectious for polioviruses (PIM Guidance).Organize and implement medical surveillance which includes medical service and immunization programs; • Provide health and safety training; • Adopt and implement safety manuals		

		aligned with OSH guideline and WHO laboratory biosafety manual; WHO technical guideline for COVID-19 Key considerations for occupational safety and health • Develop and implement safety standards according to OSH guideline and WHO laboratory biosafety manual.		
7.HCF operation – cleaning	Cleaning workers at HCF are vulnerable to infection (especially during a pandemic) and physical hazards affecting their health.	• Provide cleaning staff with adequate cleaning equipment, materials and disinfectant. • Review general cleaning systems, training cleaning staff on appropriate cleaning procedures and appropriate frequency in high use or high-risk areas. • 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 screens) and boots or closed work shoes. If appropriate PPE is not available, provide best available alternatives. • Train cleaners in proper hygiene (including hand washing) prior to, during and after conducting cleaning activities; how to safely use PPE (where required); in waste control (including for used PPE and cleaning materials).	E&S Focal persons in partner & beneficiary institutions and HCF. -HCF management - Woreda and zone health offices	Part of project operational budget
8.Mass vaccination program involving deployment of vaccines from many facilities (not just HCF), vehicles	Mass vaccination provides a vector for the spread of disease Vaccination causes adverse reaction in some individuals.	Develop infection control and waste management plan for vaccination program to consider the use of non-HCF for deployment. Screen patients for contraindications prior to administration of vaccine	MoH, EPHI, HCF	Part of project operational budget

and locations				
9. HCF operation – Labor issue including management or worker grievances, such as PPE availability and/or use; lack of proper procedures or unreasonable overtime; time-sensitivity and/or confidentiality of grievance.	- Absence of labor grievance addressing mechanism will affect performance. - Improper practices in the use of PPEs and its unavailability will increase OHS risks.	HCF will adopt the application of the GRM as featured in the COVID-19 Labor Management Procedures (LMP) and elaborated in Annex IX. as well as the WHO resources for COVID-19: occupational health available at: https://www.who.int/news-room/detail/09-03-2020-covid-19-occupational-health	-GMUE & S Staff -HCF Management - E&S Focal persons in partner & beneficiary institutions and	Part of project operational budget
10.Vulnerable and/or special needs groups:	Lack of considerations in HCF operation for differentiated treatment for vulnerable and/or special needs groups may put the elderly, people preexisting conditions, the very young, people with disabilities at higher risk of contracting COVID-19 virus.	The project design must include considerations for differential treatment for special needs groups are incorporated in subproject activities based on results and recommendations from stakeholder engagements according to the project SEP.	- E&S Focal persons in partner & beneficiary institutions and HCF staff	Part of project operational budget
11.Inadequate cleaning of HCFs	Inadequate cleaning of HCFs will affect staff and patients health and spread infection.	• Provide cleaning staff with adequate cleaning equipment, materials and MoH approved disinfectant. • Review general cleaning systems, training cleaning staff on appropriate cleaning procedures and appropriate frequency in high use or high-risk areas. • 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 screens) and boots or closed work shoes. If appropriate PPE is not available, provide best available	E&S Focal persons in partner & beneficiary institutions and HCF management	Part of project operational budget

		alternatives. • Train cleaners in proper hygiene (including hand washing) prior to, during and after conducting cleaning activities; how to safely use PPE (where required); in waste control (including for used PPE and cleaning materials). • Refer to WHO Interim guidance for WASH waste management for the COVID-19 virus available at: https://www.who.int/publications-detail/water-sanitation-hygiene-and-waste-management-for-the-covid-19-virus-interim-guidance		
12.HCF Operations: movement of vaccine, specimen, samples, reagents, medical equipment, and infectious or hazardous materials	Improper collection of samples, transportation of samples, improper laboratory waste disposal in communities or at emergency treatment units	• Ensure that HCWs who collect specimens use appropriate PPE (i.e., eye protection, an N95 mask, a long-sleeved gown, gloves). If the specimen is collected with an aerosol-generating procedure, personnel should wear a particulate respirator at least as protective as a 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 (i.e., secondary containers) that have a separate sealable pocket for the specimen (i.e., a plastic biohazard specimen bag), with the patient's label on the specimen container (i.e., the primary container), and a clearly written laboratory request form; • Establish a quality control system for packaging, collection and transportation of laboratory samples following the WHO	HCF staff, BoH EPHI E&S Focal persons in partner & beneficiary institutions and HCF Management	Part of project operational budget

		guidelines on laboratory biosafety guidance related to COVID-19; • Ensure the collection of samples, transport and the testing of clinical specimens from patients meeting the suspect case should be performed in accordance with WHO interim guidance on laboratory testing for coronavirus disease 2019; • Utilize incinerator for destroying Gene Expert cartridges at higher than 1,200 °C • Put in place innovative and efficient mechanisms to improve transport of COVID-19 samples to reference laboratories in the shortest time possible and following the safety precautions; • Sample transportation should not expose transporters to risk either during normal handling or in case of an accident.		
13.HCF Operations: Onsite waste treatment and disposal	Risks associated with on-site healthcare waste treatment and disposal: On-site healthcare waste treatment and disposal involving incineration that may include chemicals containing Volatile Organic Compounds (VOCs) may pause health risks and pollution	For selected HCFs, and based on technical and financial feasibility: • Each HCF should develop an ICWMP according to Annex IV. • Septic and other systems recommended by WBG EHS guideline and by WHO Interim guidance for WASH waste management for the COVID-19 virus are duly considered in HCF infection control and waste management plans. Appropriate waste drainage systems leading to septic tank or public sewerage facilities or treatment technologies such as activated sludge and sanitary facilities will be used, if available in the local municipality.	BoH EPHI E&S Focal persons in partner & beneficiary institutions and HCF management	Part of project operational budget
14.HCF Operations:	Risks associated with waste transportation, off-site treatment and	• The relevant staff should be trained on pre-hospital emergency care, infection	HCF	Part of project

Transportation and disposal at offsite waste management facilities	disposal. Waste transportation, off-site treatment and disposal can cause transmission risk of COVID-19 virus. There is a risk associated with traffic and road safety hazard during operational phase due to use of ambulances, transportation of samples to the laboratory and transportation of highly infectious medical waste from facilities with no HCW treatment and disposal facilities.	prevention and control measures, how to handle samples in transit, healthcare waste and spillage management in case of an accident and provided with the required PPE, • Vehicles used as ambulances or for transporting any hazardous material and medical waste should be road worthy, labelled to indicate its load and its payload secured to minimize risk of accidents and spillage, • The project shall well-equipped ambulances; ensure they are outfitted with audible back-up alarms as well as with effective communication system for emergency service functions and activities • Periodic community awareness on traffic awareness campaign, • Use of competent drivers with defensive driving technics, • MoH and the respective project beneficiaries (health facilities, referral laboratories) shall regularly inspect vehicle safety and maintain them accordingly, and • Ambulance drivers should follow guidance on safe emergency driving, • Vehicles used in transport of samples or healthcare waste should be easy to clean, free of sharp edges and shall be cleaned thoroughly and disinfected after use	Management BoH EPHI E&S Focal persons in partner & beneficiary institutions	operational budget
15.HCF operation - Infection control and waste management plan	Improper clinical care, isolation of suspected cases and follow-up of survivors. The onward infection of medical workers or other people due to improper clinical	• Improve biosecurity and harmonize care protocols to avoid risk of infections of medical workers and other people; • Build triage centers in referral hospitals or in health facilities according to the dynamics of COVID-19 pandemic;	HCF Management BoH EPHI E&S Focal persons in	Part of project operational budget

	care, isolation of suspected cases and follow-up of survivors would be a negative impact with long-term and irreversible (if death occurred) socio-economic impact will have high significance	• Set up a management system specific to case management structures under the management of MOH (finance, logistics, administration, etc.); and • Restructure the survivors' follow-up program by fully integrating it into the clinical care. • In case of blood/bodily fluid exposure: ○ Persons including HCWs with percutaneous or muco-cutaneous exposure to blood, body fluids, secretions, or excretions from a patient with suspected or confirmed infectious disease, should immediately and safely stop any current tasks, and leave the patient care area. ○ Safely take off PPE according to the steps in the procedure, in the anteroom. ○ Treat affected exposed area: ▪ wash the affected skin surfaces or the percutaneous injury site with soap and water ▪ Irrigate mucous membranes (e.g. conjunctiva) with copious amounts of water or an eyewash solution, and not with chlorine solutions or other disinfectants. ○ Immediately report the incident to the chief of unit, IPC focal point (following hospital exposure procedure) as soon as the HCF staff exist the isolation room/ unit. ○ Exposed persons should be medically evaluated for: • infectious disease (ID) (of isolated patient) • other potential exposures (e.g., HIV, HCV) if sharp/needle-stick injury.	partner & beneficiary institutions	

		○ Exposed persons must receive follow-up care, including: ▪ fever monitoring, twice daily period of recording symptoms will depend on the ID ▪ Counselling and psychological support. ○ Immediate consultation with an expert in infectious diseases for any exposed person who develops fever, symptoms after exposure. ○ If fever appears and other symptoms, isolate HCF staff, and follow procedure for ID suspected until a negative diagnosis is confirmed. ○ Workers suspected of having infected should be cared for/isolated, and the same recommendations outlined in this document must be applied until a negative diagnosis is confirmed. ○ Conduct contact tracing and follow-up of family, friends, co-workers and other patients, who may have been exposed to COVID-19 virus through close contact with the infected HCW/ staff		
16.Air pollution from HCF Operation.	Incineration of hospital waste if carried out in inappropriate facilities could result into localized pollution of air with pollutants such as ash, furans and dioxins. The Downwash of incinerator emissions has potential to degrade indoor air quality of healthcare buildings or those of nearby offsite buildings. The impact severity associated with this is that the duration of onsite and offsite air pollution would be long-term lasting entire life on incineration units unless the deficient	-Selected District Hospital incinerators should be regularly inspected and monitored: Healthcare administrators should undertake regular visual inspection of incinerator stack for incidents of downwash and undertake annual monitoring of ambient air quality or a general environmental audit of entire healthcare facility. -Screen out incinerators operating in a way that creates health and safety risks to the HCF patients and staff. The project should contribute to training of	HCF Management (including health center and hospitals) BoH EPHI E&S Focal persons in partner & beneficiary institutions	Part of project operational budget

	units are either decommissioned or improved.	incinerator operators as it is important for them to be familiar with basic principles and routine practices. For example, homogenization of waste is crucial to ensure efficient and complete combustion during incineration to avoid generation of dioxins for instance when wet waste batches quench flames and lower combustion temperature below levels at which such pollutants are destroyed.		

17. Aerosol and organic solvent transmission risk of COVID-19 virus:	Improper methods of transportation and delivery of specimen (and other infectious material), samples, reagents, pharmaceuticals and medical supplies as well as improper storage and handling may result in aerosol and organic solvent transmission risk of COVID-19 virus.	The HCF staff (with support from the HCF management) will ensure that due reference is made to WHO Laboratory biosafety guidance related to COVID-19 for proper handling and storage of infectious materials including specimen and samples. The guide includes use standard laboratory practice to avoid/minimize release of aerosols and organic solvents to atmosphere as well as adequate ventilation in laboratories and treatment areas and use of fume hoods if necessary for chemical processing.	HCF Management E&S Focal persons in partner & beneficiary institutions	Part of project operational budget
18. HCF Operation: Improper use of COVID-19 equipment	Risks associated with improper use of COVID-19 equipment	Exclusive use of disposable supplies for IPC is appropriate in highly infectious situations and therefore require diligent waste management procedures during screening of potential COVID-19 patients and during pre-triage. The HCF staff with support from the ES focal persons will ensure appropriate handling and management of generated waste, at Screening Posts (PoEs) and Centers of Quarantine, hospital Isolation and Treatments Facilities and by at Screening Posts (PoEs) of Health Centers or other community designated centers. Due reference will be made to the WHO interim guidance for "Rational use of personal protective equipment (PPE) for coronavirus disease (COVID-19)" available at: https://www.who.int/publications-detail/rational-use-of-personal-protective-equipment-for-coronavirus-disease-(covid-	HCF Management E&S Focal persons in partner & beneficiary institutions	Part of project operational budget

		19)-and-considerations-during-severe-shortages		
19. HCF Operations: procurement of PPEs	Procurement of poor quality PPE may exacerbate COVID-19 infection transmission to healthcare workers and cleaners in relation to laboratory procedures, interaction with COVID-19 patients and handling of healthcare waste.	• Adhere to the procurement plan for acquisition of all personal protective equipment from certified suppliers only. • Carry out due diligence for all potential suppliers to guarantee quality supply of personal protective equipment and products. • Abide by the WHO interim guidance on rational use of PPE for coronavirus disease 2019 over the types and quality of PPE required for different functions. • The healthcare workers shall be provided with medical personal protective equipment (PPE) includes: Medical mask, Gown, Apron, Eye protection (goggles or face shield), Respirator (N95 or FFP2 standard), Boots/closed work shoes and trained on use.	HCF Management E&S Focal persons in partner & beneficiary institutions	Part of project operational budget
20. General HCF operation - OHS issues	**Occupational Safety and Health Risks**: • Biological hazards (blood or other body fluids with potential to cause diseases); • Lack of adequate lighting in workplaces; • Lack of safe access particularly for disabled employees; • Inadequate ventilation in rooms; • Lack of adequate training (or neglect	• Ensure the implementation of standard precautions and transmission based precautions in line with national guidelines for IPC in healthcare facilities taking into account guidance from WHO and/or CDC on COVID 19 infection control. • Update and implement HCF OHS plan and/or emergency response plan, • Ensure identification of risks (Job Risk Assessment) and instituting proactive measures,	HCF Management E&S Focal persons in partner & beneficiary institutions	Part of project operational budget

	of safety precautions/ guidelines) in use of medical equipment; • Misuse of equipment and materials for functions they are not designed; • Lack of safety signage in specific areas (e.g. X-ray rooms) from radioactive hazards; • Electrical hazard; • Eye hazards such as splashes in laboratories and operating rooms; and • Chemical hazards (acids, alkalis, expired drugs, oxidizing and reactive chemicals); • Likelihood of the impact occurring is high unless control measures are instituted. Although it is a cumulative impact, the risk to human health is significant.	• Train the healthcare workers on the potential OSH risks in relation to COVID-19, • Provision of adequate and required personal protective equipment (PPE) to health workers and enforce on use. This includes: single use medical mask, gown, Apron, eye protection, boots or closed shoes. • Provision of a system for disinfection of the multi-use PPE if not available. • Implementation of systemic risk management plan comprising risk prevention, evacuation of accident victims, evaluation and improvement measures. • Ensure availing of Material Safety Data Sheet for all chemical use in the lab to the lab technicians. • The beneficiary facilities (labs and HCF) will prepare sub-project specific ICWMP and this will include update of the health facility OSH plan.		
21.General HCF Operations- Fire Hazard	**Fire risk:** Without provisions for fire safety, there is a risk of fire outbreak at healthcare facilities (quarantine, isolation, laboratories) with disastrous life and financial impact. Fires can start from ignitable materials in laboratories, cigarette smoking in non-designated places or old electrical connections.	• Provide fire extinguishers to healthcare facilities during their renovation at strategic positions and ensure servicing is done. • Key healthcare staff shall have basic training in fire control. • Fire emergency telephone numbers should be displayed in communal areas. • Each healthcare facility shall prepare a	HCF Management E&S Focal persons in partner & beneficiary institutions	Part of project operational budget

		fire emergency management plan. • Undertake regular fire drills at healthcare facility, to test on emergency response and use the results to improve on the response mechanism. • Specific site Emergency Response Plan should adequately address all potential hazards (not just fire) including but not limited to man-made (spills, accidental releases, loss of energy supply) and flood / storm.		
22. HCF operation - Infection Prevention	**Weak infection prevention measures:** The absence of effective IPC and WASH measures would curtail efforts to control COVID-19. This reiterates the importance of precautions such as avoiding handshaking, hand washing with soap and water and use of alcohol-based sanitizers. In addition, burial of COVID-19 victims should be left to specialized healthcare teams. The impact severity in case of the absence or weak COVID-19 infection prevention and control measures would lead to uncontrolled spread of COVID-19, a negative long-term and irreversible (if death occurred) socio-economic impact with high significance.	• Health facilities should establish and apply standard precaution including hand hygiene, respiratory hygiene, use of PPE, handling of patient care equipment and soiled linen, environmental cleaning and prevention of needle stick and sharp injuries. • Health facilities shall ensure provision of safe water, sanitation and hygienic conditions in line with WHO guidance on water, sanitation and waste management for COVID-19 and National guidelines for infection prevention and control of health facilities. • Strengthen training activities of healthcare providers and IPC supervisors on issues related to COVID-19 • ensuring triage, early recognition, and source control (isolating patients with suspected COVID-19); • applying standard precautions for all patients; implementing empiric additional precautions (droplet and contact and, whenever applicable, airborne precautions) for suspected cases of	HCF Management (including health center and hospitals) BoH EPHI	Part of project operational budget

		COVID-19; • implementing administrative controls; and using environmental and engineering controls. • Implement the IPC package that includes standard operating procedures (SOPs), tools, and rapid diagnostic tests. • Strengthen the IPC / WASH support system in health facilities based on health facility assessments, training supervision with corrective actions, and the establishment of a quality assurance system in close collaboration with the independent monitoring and evaluation team. • Evaluate and implement WASH infrastructures (improvement of water and sanitation facilities) and services in health facilities. • Provide health facilities with IPC / WASH inputs (detergents) as needed and monitor their use; • Ensure the decontamination of health facilities that have received confirmed COVID-19 cases. • Ensure implementation of the IPC ring approach around each confirmed case of COVID-19. • Promote preventive medicine; no pregnant women, staff older than 65 or staff with underlying health conditions, should be working in isolation areas, provision of psychosocial support to medical staff and team and any health care workers reporting COVID-19 symptoms should stop work immediately.		
23. Community Health	**I**mpaired air quality from burning of	• Targeted procurement of only required	HCF	Part of project

risks	waste, storm water contamination or when people rummage through raw waste stockpiles. Wastewater may not seem to pose considerable disposal challenge since all existing facilities either has onsite septic systems or sewage lagoons. However, this remains a risk in areas where there is no drainage system. Plume downwash leads to chronic exposure of nearby communities to potent air pollutants including dioxins. Infections sustained when people or children rummage through improperly dumped infectious waste can be life-threatening.	pharmaceutical, equipment, and other medical supplies in small quantities; • Ensure regular monitoring of solid, liquid waste management practices and incineration; • Ensure proper management of pharmaceutical waste by engaging a consultant to develop measures and guidelines for each facility in accordance with the national healthcare waste management plan; • To ensure proper sewage management and use of latrines where they there is no sewer; • EFDA E&S focal persons and MoH shall develop measures for proper management of expired pharmaceutical drugs and instigate this policy at all health care facilities; • Install appropriate drainage channel within the health facility; • Facility operators should undertake regular assessment of waste generation quantities and categories to facilitate waste management planning, and investigate opportunities for waste minimization on a continuous basis, • Separate residual chemicals from containers and remove to proper disposal containers to reduce generation of contaminated wastewater; • All waste disposal sites should be licensed, secured and out of reach from the scavengers; • Select facilities with incinerator(s) that are appropriate to handle healthcare waste with specification including air	Management (including health center and hospitals) BoH E&S Focal persons in partner & beneficiary institutions	operational budget

		pollution control option; • Ensure the healthcare waste generated in the facilities are disinfected, treated and safely disposed of; and • Community should be sensitized on infection prevention and control measures related to COVID-19.		
24.Community Infection Prevention and Control	Lack of additional measures to prevent infection in communities will affect the wider public health.	• Ensuring access to water and sanitation in schools and public places; • Ensuring decontamination of households and public places that have had confirmed COVID-19 cases; • Providing hygiene kits to households, schools and public places; • Strengthening the monitoring and evaluation system; and • Training community leaders in COVID-19 prevention • WHO guidance on key questions and answers concerning water, sanitation and hygiene (WASH) is presented.	HCF Management (including health center and hospitals) BoH E&S Focal persons in partner & beneficiary institutions	Part of project operational budget
25.General HCF operations: **Emergency events**	**Handling emergency situations**	HCF should prepare an Emergency Preparedness and Response Plan that should cover: ➢ Planning Coordination: This should include procedures for: • Informing the public and emergency response agencies • Documenting first aid and emergency medical treatment • Taking emergency response actions • Reviewing and updating the emergency response plan to reflect changes and ensuring that the employees are informed of such changes ➢ Emergency Equipment: The plan should	HCF Management (including health center and hospitals) BoH E&S Focal persons in partner & beneficiary institutions	Part of project operational budget

		include procedures for using, inspecting, testing, and maintaining emergency response equipment. ➢ Training: Employees should be trained in any relevant procedures ➢ Undertake regular emergency drills (fire, chemical spill) at healthcare facility, to test on emergency response and use the results to improve on the response mechanism		
26.General HCF operations – Lack of sustainability	Lack of sustainability of HCF services hindered by shortage of supply and maintenance affects effective prevention, treatment and control of COVID-19	• A Facility Maintenance Plan shall be prepared and implemented at each healthcare facility. • HCF shall have timely engagement with MoH to secure a budget to sustain healthcare facilities in a functional state. • Equipment's available in the health facilities should be serviced and maintained regularly	HCF Management (including health center and hospitals) BoH	Part of project operational budget
27.COVID-19 related Stigma	**Stigma:** impact severity in the absence or weak psychosocial support systems would impede effective prevention of stigma attached to COVID-19, a negative but short-term and reversible impact, reducing or ceasing with heightened awareness	• Ensure accurate information on the disease, its spread, symptoms and outcomes is broadly distributed to communities using channels that are accessible. • Handle all people directly affected by the disease with dignity (those in hospitals, quarantine/isolation centers and the dead). • Strengthen psychological support for ETCs (for confirmed, suspected, and discharged cases) and assistance with hygiene kits for all discharged and cured patients. • Support affected households to anticipate management of behavioral problems, which can generate tensions and resistance in the community.	EPHI MoH/GMU BoH HCF Management (including health center and hospitals) E&S Focal persons in partner & beneficiary institutions	Part of project operational budget

28. Gender-based violence (GBV) and sexual harassment, exploitation and abuse (SEA/SH)	There is a risk of GBV and SH/SEA during operational phase in the management of quarantine/isolation centers. If security personnel are deployed to guard isolation/quarantine centers the risk of abuse of women and girls could be high. There is also a risk of GBV/SEA/SH among co-workers.	• Ensure isolation and quarantine centers are secured. • Limit admission of outsiders into the centers. • Monitor and report on the behavior of security guards at the centers. • Provide training for the direct security guard employees of the HCF • Ensure the people in these facilities understand the GBV/SEA/SH referral pathways. • Ensure the people at the center have access to the toll free hotline. • All workers including security guards should sign the code of conduct to hold them accountable (see the LMP).	HCF Management E&S Focal persons in partner & beneficiary institutions	Part of project operational budget
29. Inadequate public consultation and participation	Given the emergency nature of this project, this process may not be effectively done. Those at the periphery - rural populations, the urban poor and VMGs/HUTLCs may be discriminated against in this process.	• Ensure that measures are put in place to identify and reach the vulnerable community members with project information. Special efforts should be made to reach the deaf and blind with critical information on COVID-19. • Use communication channels that are accessible to marginal populations including use of community radios, translating information in local languages. • Identify and equip local leaders with information for further dissemination in their communities through their local structures including community leadership, churches, mosques, clans, etc.	HCF Management E&S Focal persons in partner & beneficiary institutions	Part of project operational budget
30.Vaccination Campaign	*Low considerations for communication and outreach for disadvantaged and vulnerable groups*	• Ensure that measures are put in place to identify and reach the vulnerable community members with project information. Special efforts should be made to reach the deaf and blind with critical information on COVID-19.	EPHI MoH/GMU BoH E&S Focal persons in	Part of project operational budget

		• Use communication channels that are accessible to marginal populations including use of community radios, translating information in local languages.	partner & beneficiary institutions	
31.Stakeholder engagement	Considerations for simple, accurate, accessible and culturally appropriate information dissemination; combating misinformation; responding to grievances Targeting of beneficiaries is not done in a fair, equitable and inclusive manner Lack of transparency about the vaccination program *Poorest / most needy households are left out* Lack of diversity and inclusion in vaccination program, resulting in inadequate benefits for other vulnerable groups	• Outreach/communication tools to make potential beneficiaries aware of the eligibility criteria, principles and methods used for targeting. • Ensure project includes a functional Grievance Mechanism. • Use local community structures to identify and select beneficiaries, based on inclusive consultations	EPHI MoH/GMU BoH E&S Focal persons in partner & beneficiary institutions	Part of project operational budget
32. Sexual Harassment	SEA/SH increase in project area (e.g. requests for sexual favors to receive vaccinations)	• Consultations to discuss process for identifying vaccination prioritization • Grievance Mechanism (GM) to be established as soon as possible to handle complaints • Provide information to potential beneficiaries on eligibility criteria and GM process via various media (radio, SMS, television, online, posters) • Work with local NGOs to provide social services for affected beneficiaries, as well as assistance to register	EPHI MoH/GMU BoH E&S Focal persons in partner & beneficiary institutions	Part of project operational budget

	Lack of diversity and inclusion in vaccination program, resulting in inadequate benefits for other vulnerable groups	• Ensure women participate in the program and, where possible, give preference to women within households as transferees • Work with community representatives/NGOs so that vulnerable groups such as unaccompanied children, youth, Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) survivors, Indigenous Peoples, LGBTI communities, refugees, internally displaced peoples, etc. are included in project activities and benefits	EPHI MoH/GMU BoH E&S Focal persons in partner & beneficiary institutions	Part of project operational budget

Table 10: Environmental and social risks and mitigation measures during decommissioning

Key Activities	Potential ES Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
1.Decommissioning of interim HCF	Soil Erosion	Re-vegetating areas promptly	BoH, HCF, Woreda Agriculture office, E&S Focal persons in partner & beneficiary institutions	During decommissioning period	To be determined later based on specific site decommissioned
2.Decommissioning of interim HCF	Air Quality	Selectively removing potential hazardous air pollutants, such as asbestos, from existing infrastructure prior to demolition, Dust suppression techniques should be implemented, such as applying water or non-toxic chemicals to minimize dust from vehicle movements, and PPE, such as dusk masks, should be used where dust levels are excessive.	BoH, HCF, E&S Focal persons in partner & beneficiary institutions, Contractor	During decommissioning period	To be determined later based on specific site decommissioned
3.Decommissioning of interim HCF	Solid Waste (scrap wood and metals, and small concrete spills, office, kitchen, wastes)	Segregate waste at sources, Safely dispose and incinerate all objects/equipment made of porous/ absorbable material (e.g. linen), Surfaces that are intact and can withstand rigorous cleaning may undergo cleaning and disinfection, Waste should be stored securely while awaiting transport to point of disposal to prevent scavenging, and Use Licensed waste handler to haul away solid wastes,	BoH, HCF, E&S Focal persons in partner & beneficiary institutions, Contractor	During decommissioning period	To be determined later based on specific site decommissioned

4.Decommissioning of interim HCF	Hazardous solid waste includes contaminated soils, oily rags, used oil filters and infection wastes.	Segregate waste at sources, Sharp objects and equipment that have been in contact with blood or body fluids should be placed inside puncture resistant waste containers, Waste should be stored securely while awaiting transport to point of disposal to prevent scavenging, and Use Licensed waste handler to haul away solid wastes,	BoH, HCF, E&S Focal persons in partner & beneficiary institutions, Contractor	During decommissioning period	To be determined later based on specific site decommissioned
5.Decommissioning of interim HCF	Waste water Discharges	Segregation of waste water streams to ensure compatibility with selected treatment option (e.g. septic system which can only accept domestic sewage); Meet the pretreatment and monitoring requirements of the sewer treatment system before discharges.	BoH, HCF, E&S Focal persons in partner & beneficiary institutions, Contractor	During decommissioning period	To be determined later based on specific site decommissioned

6.Decommissioning of interim HCF	OHS Risks	Red zone cleaners should wear FULL PPE according to WHO recommendations, All environmental surfaces (including furniture, walls, doors, etc.) or objects should be cleaned with water and a detergent and then disinfected using a 0.5% chlorine solution. Fence off to avoid unpermitted access. Disinfect the working area. Workers should wear appropriate PPE, which includes protective outerwear, heavy-duty gloves, boots, goggles or a face shield, and a mask; Perform hand hygiene frequently; Avoid touching their eyes, nose or mouth with unwashed hands, and Practice social distancing while working.	BoH, HCF, E&S Focal persons in partner & beneficiary institutions, Contractor	During decommissioning period	To be determined later based on specific site decommissioned
7.Decommissioning of interim HCF	Waste water infection	Spills or waste including blood, other body fluids, secretions or excretions should be removed, and cleaned and decontaminated,	BoH, HCF, E&S Focal persons in partner & beneficiary institutions, Contractor	During decommissioning period	To be determined later based on specific site decommissioned
8.Decommissioning of interim HCF	Excreta Materials	A permanent septic tank or latrine that has been used for COVID-19 facility and is less than 2/3 full should be cleaned and decontaminated with 0.5% chlorine. The pit of the septic tank should be treated with lime.	BoH, HCF, E&S Focal persons in partner & beneficiary institutions, Contractor	During decommissioning period	To be determined later based on specific site decommissioned

9.Decommissioning of medical equipment		Creation of a well demarcated “clean” zone Disinfect the medical equipment Carry out process of dismantling in different areas of the facility simultaneously, No equipment or material should be abandoned on site without the approval of the relevant regulatory authorities and any affected people. Seek approval of clean site from the District, RDB and REMA.	HCF, District, MoH	During decommissioning period	To be determined later based on specific site decommissioned

Annex IV: Infection Control and Waste Management Plan (ICWMP) Template

1. Introduction

1.1 Describe the project context and components

1.2 Describe the targeted healthcare facility (HCF):

- Type: E.g. general hospital, clinics, inpatient/outpatient facility, medical laboratory, quarantine or isolation centers;
- *Special type of HCF in response to COVID-19: E.g. existing assets may be acquired to hold yet-to-confirm cases for medical observation or isolation;*
- Functions and requirement for the level infection control, e.g. biosafety levels;
- Location and associated facilities, including access, water supply, power supply;
- Capacity: beds

1.3 Describe the design requirements of the HCF, which may include specifications for general design and safety, separation of wards, heating, ventilation and air conditioning (HVAC), autoclave, and waste management facilities.

2. Infection Control and Waste Management

2.1 Overview of infection control and waste management in the HCF

- Type, source and volume of healthcare waste (HCW) generated in the HCF, including solid, liquid and air emissions (if significant)
- Classify and quantify the HCW (infectious waste, pathological waste, sharps, liquid and non-hazardous) following WBG EHS Guidelines for Healthcare Facilities and pertaining GIIP.
- *Given the infectious nature of the novel coronavirus, some wastes that are traditionally classified as non-hazardous may be considered hazardous. It's likely the volume of waste will increase considerably given the number of admitted patients during COVID-19 outbreak. Special attention should be given to the identification, classification and quantification of the healthcare wastes.*
- Describe the healthcare waste management system in the HCF, including material delivery, waste generation, handling, disinfection and sterilization, collection, storage, transport, and disposal and treatment works.
- Provide a flow chart of waste streams in the HCF if available
- Describe applicable performance levels and/or standards
- Describe institutional arrangement, roles and responsibilities in the HCF for infection control and waste management

2.2 Management Measures

- Waste minimization, reuse and recycling: HCF should consider practices and procedures to minimize waste generation, without sacrificing patient hygiene and safety considerations.
- Delivery and storage of specimen, samples, reagents, pharmaceuticals and medical supplies: HCF should adopt practice and procedures to minimize risks associated with delivering, receiving and storage of hazardous medical goods.
- Waste segregation, packaging, color coding and labeling: HCF should strictly conduct waste segregation at the point of generation. Internationally adopted method for packaging, color coding and labeling the wastes should be followed.
- Onsite collection and transport: HCF should adopt practices and procedures to timely remove properly packaged and labelled wastes using designated trolleys/carts and routes. Disinfection of pertaining tools and spaces should be routinely conducted. Hygiene and safety of involved supporting medical workers such as cleaners should be ensured.

- Waste storage: A HCF should have multiple waste storage areas designed for different types of wastes. Their functions and sizes are determined at design stage. Proper maintenance and disinfection of the storage areas should be carried out. Existing reports suggest that during the COVID-19 outbreak, infectious wastes should be removed from HCF's storage area for disposal within 24 hours.
- Onsite waste treatment and disposal (e.g. an incinerator): Many HCFs have their own waste incineration facilities installed onsite. Due diligence of an existing incinerator should be conducted to examine its technical adequacy, process capacity, performance record, and operator's capacity. In case any gaps are discovered, corrective measures should be recommended.
- Transportation and disposal at offsite waste management facilities: Not all HCF has adequate or well-performed incinerator onsite. Not all healthcare wastes are suitable for incineration. An onsite incinerator produces residuals after incineration. Hence offsite waste disposal facilities provided by local government or the private sector are probably needed. These offsite waste management facilities may include incinerators, hazardous wastes landfill. In the same vein, due diligence of such external waste management facilities should be conducted to examine its technical adequacy, process capacity, performance record, and operator's capacity. In case any gaps are discovered, corrective measures should be recommended and agreed with the government or the private sector operators.
- Wastewater treatment: HCF wastewater is related to hazardous waste management practices. Proper waste segregation and handling as discussed above should be conducted to minimize entry of solid waste into the wastewater stream. In case wastewater is discharged into municipal sewer sewerage system, the HCF should ensure that wastewater effluent comply with all applicable permits and standards, and the municipal wastewater treatment plant (WWTP) is capable of handling the type of effluent discharged. In cases where municipal sewage system is not in place, HCF should build and properly operate onsite primary and secondary wastewater treatment works, including disinfection. Residuals of the onsite wastewater treatment works, such as sludge, should be properly disposed of as well. There're also cases where HCF wastewater is transported by trucks to a municipal wastewater treatment plant for treatment. Requirements on safe transportation, due diligence of WWTP in terms of its capacity and performance should be conducted.

3. Emergency Preparedness and Response

Emergency incidents occurring in a HCF 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, 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 will be developed. The key elements of an ERP 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; (h) measures for restoration and cleanup of the environment following any major accident.

4. Institutional Arrangement and Capacity Building

A clearly defined institutional arrangement, roles and responsibilities should be included. A training plan with recurring training programs should be developed. The following aspects are identfied :

- 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 chief of a HCF takes overall responsibility for infection control and waste management;

- Involve all relevant departments in a HCF, 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; and
- 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.

5. Monitoring and Reporting

Many HCFs in developing countries face the challenge of inadequate monitoring and records of healthcare waste streams. HCF 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 HCF is encouraged to develop an IT based information management system should their technical and financial capacity allow.

As discussed above, the HCF chief takes overall responsibility, leads an intra-departmental team and regularly reviews issues and performance of the infection control and waste management practices in the HCF. Internal reporting and filing systems should be in place.

Externally, reporting should be conducted per government and World Bank requirements.

Table 11: ICWMP

Activities	**Potential ES Issues and Risks** **[ADD RISKS AS NECESSARY]**	**Proposed Mitigation Measures** **[TO BE COMPLETED BASED ON SPECIFIC ARRANGEMENTS AS AGREED WITH THE MOH AND SPIU]**	**Responsibilities** **[TO BE FILLED OUT WITH SPECIFIC ARRANGEMENTS FROM HCF, Woreda, BoH, MOH, etc.]**	**Budget**
General HCF operation – Environment	General wastes	Use of waste receptacles that encourage segregation to hold waste on site before its collection, Use of durable, long-lasting materials that will not need to be replaced often, Deploy MOH contracted waste handler to dispose of hazardous waste and have waste destruction certificate and waste transfer notes. Designate temporal waste / garbage holding areas at site. General waste in the case of handling COVID-19 patients should be treated as infectious waste.		
	- Waste water	All infectious effluents should be discharged into the public sewer system or soak pits only after being pre-treated according to WHO standards		
	- Air emissions (dioxins, furans, arsenic, lead, cadmium, chromium, mercury, etc.	-Controlled procurement process to ensure quality and efficient incinerators, -Prohibit open burning of medical waste on site, - Siting of the incinerators should be away from the health facilities wards , residential areas and farms		

	- Risks by direct exposure (inhalation) or in-direct exposure (deposited in soil, water, plants, etc.	-Ensure the incinerators used in the health facilities are fitted with scrubbers to reduce on release of pollutants to be in compliance with National regulations. Incinerator chimney installed should be of the recommended height as stipulated in the Waste Management regulations Improved operation, process monitoring and emission controls will be necessary to meet standards for dioxins, furans and particulate matter release to the environment.		
General HCF operation OHS issues	- Physical hazards; - Chemical use; - Ergonomic hazard;	All workers should be provided with appropriate PPE against exposure to hazards, Training for all staff should be given on safe work practices /OHS and guidelines and ensure that they adhere to it, The medical facilities and equipment should be regularly maintained to correct any electrical faults, Strategic display on OHS Policy and regular review of the policy by the manager, Proper maintenance of PPE, including cleaning when dirty and replacement when damaged or worn out, Proper use of PPE should be part of the recurrent training programs for employees, Emergency eye-wash and shower facilities should be equipped with audible and visible alarms to summon aid whenever the eye-wash or shower is activated by the worker and without intervention by the worker,		

		Ensure adequate provision of safety systems which should cover fire, electrical emergencies with First-aid areas or rooms suitably equipped and readily accessible should be available, Provision of first aid kits and first aiders trained the relevant personnel on first aid, and Materials safety data sheet for all chemicals used especially at the lab should be hanged on notice boards.		
	Electrical and explosive hazards;	All electrical repair activities should be done by competent electrician, Ensure the Biomedical department in the health facility has a qualified electrician to address the electrical faults, Prepare and implement Emergency response plan-Emergency Contacts, Periodic maintenance of electrical equipment, and Consider safe storage of supplies and undertake precaution with respect to explosives.		
	Fire	Prepare and implement Fire emergency response plan Training of fire marshals in the facilities, Early identification of risks (Job Risk Assessment) and instituting proactive measures to avoid. Provide fire extinguishers to healthcare facilities during their renovation Ensure servicing and inspection of the firefighting equipment Fire emergency telephone numbers should be		

		displaced in communal areas. Undertake fire drills at healthcare facility, at a minimum once quarterly.		
	Radioactive hazard.	All radioactive materials should be handled safely to prevent harm to people and environment. HCF operators should develop a comprehensive plan to control radiation exposure in consultation with the affected workforce, Radioactive waste should be stored in containers that prevent dispersion behind lead shielding. Waste that is stored during radioactive decay should be labelled with the type of radionuclide, the date and details of the required storage conditions, Radioactive hazard plan should be refined and revised as soon as practicable on the basis of assessments of actual radiation exposure conditions, and radiation control measures should be designed and implemented accordingly, and Places of work involving occupational exposure to ionizing radiation should be provided with requisite protection (PPE) in accordance with recognized international safety standards and guidelines[9].		
Waste minimization, reuse and recycling	- Potential increased generation of waste Risk in spread of COVID-19	-Procure medical supplies & equipment from accredited suppliers preferably in small quantities, -Waste generated from care of COVID-19 patient should not be re-used		
HCF operation - Infection	Possible risks of infection	Provide appropriate PPE against exposure to		

[9] International Basic Safety Standard for protection against Ionizing Radiation and for the Safety of Radiation Sources and its three interrelated Safety Guides

control and waste management plan		infectious pathogens, hazardous chemicals in accordance with recognized international safety standards and guidelines.		
Delivery and storage of specimen, samples, reagents, pharmaceuticals and medical supplies	- Infection to lab attendants Expiry of medical supplies and pharmaceuticals	Orientation for all staff would be given on safe work practices and guidelines and ensure that they adhere to it. Provide relevant vaccine program for all health workers and supportive staffs		
Storage and handling of specimen, samples, reagents, and infectious materials	Infection to lab attendants	Adopt or utilize WHO, CDC & NIH guidelines, standards, practice and procedures especially WHO Laboratory biosafety guidance related to coronavirus disease 2019 (COVID-19). Initial processing of all specimens should take place in a validated biological safety cabinet (BSC) or primary containment device. All technical procedures should be performed in a way that minimizes the generation of aerosols and droplets. Use of appropriate disinfectants with proven activity against enveloped viruses should be used (for example, hypochlorite [bleach], alcohol, hydrogen peroxide, quaternary ammonium compounds, and phenolic compounds).		
Waste segregation, packaging, color coding and labeling	Increased generation of infectious waste due to poor segregation practices	Segregation of wastes into different categories—for control of quantities and disposal methods Waste containers should be of the same colour as the bags and fitted with lids.		
Onsite collection and transport	- Infection to the waste handlers - Non segregation of waste	Ensure proper waste management practices as recommended by the WBG EHS guidelines, WHO Safe waste management guidelines for		

	- Increased generation of infectious waste due to contamination	improvement waste management and Health care waste management plan 2016-2021. The collection of waste would be made at least once in 24 hours, and it would be done in such a way to minimize nuisance of smell and dust during collection and all the waste collected must be carried away from the storage site to an approved disposal point. Provide appropriate waste bins for the different types of waste generated in the laboratory to allow segregation and collection at the point of generation.		
Waste storage	- Littering of waste Contamination of surfaces	Segregation of wastes into different categories for control of quantities and disposal methods. Provision of color coded waste bins with lid, Provision of appropriate PPEs for waste handlers and incinerator operators Decontamination of surfaces		
Onsite waste treatment and disposal Incineration	- Pollution to environment discharges of contaminated waste water - Emissions from the incinerator	Adopt the suggested design for the waste treatment facility, if an incinerator, see section 1. Waste segregation at point of origin to reduce on waste generated, Ensure operator of incineration unit is adequately trained to ensure efficient operation. Provide the required PPE to operators and waste handlers Periodic maintenance of the incinerator through cleaning of combustion chamber and de-clogging the air flows		

		Routine inspection of furnace and air pollution system by the regulatory authority Have a well-established audit and reporting system on waste treatment operations		
Waste transportation to and disposal in offsite treatment and disposal facilities	- Littering of wastes - Disposal in non-permitted waste sites -	Offsite transportation of waste should comply with the national regulations. Use of licensed Waste transporters, Keeping record of waste transfer notes as well as waste destruction certificates at the point of disposal facility. Use the appropriate vehicle type for transportation of HCW off site Staff should be aware of emergency procedures for dealing with accidents and incidents of spillage during transportation on public roads Due diligence should be undertaken for all the waste treated off site to ensure waste is transported through the required routes (non-busy route) and safely treated and disposed		
HCF operation – trans boundary movement of specimen, samples, reagents, medical equipment, and infectious materials	- Importation of substandard medical supplies and equipment - Illegal importation - Classes of dangerous goods without clear G - Improper handling and stowage	Procure medical supplies & equipment from accredited supplier Proper handling of equipment use, and methods of storage from cradle to crave, Cross-boundary transport of specimens of the virus responsible for COVID-19 should follow the United Nations model regulations, Technical instructions for the safe transport of dangerous goods by air (Doc 9284) of the International Civil Aviation Organization.		

Emergency events	- Spillage, Fire & others -	Emergency response plan(s) for specific emergencies, -Regular drills would constantly follow on various possible incidences. This will test the response of the involved stakeholders. Such drills will keep them alert and they will become more responsive to in the case of incidences. -Train relevant staff on response in risk management and emergency procedures in-case of accidents and spillages.		
	- Failure of solid waste and wastewater treatment facilities;	All HCFs should prepare waste management procedures in accordance with the national requirements that outline waste segregation procedures, on site handling, collection, transport, treatment and disposal, and training of the staff.		
	- Accidental releases of infectious or hazardous substances to the environment;	Train relevant staff on response in risk management and emergency procedures in-case of accidental releases of infectious or hazardous substances, and Provision of receptacles for timely response of accidental releases.		
	- Occupational exposure to infectious;	Ensure the provision of safe water, sanitation, and hygienic conditions, which is essential to protecting human health during all infectious disease outbreaks, Health facilities shall establish and apply good practices line with WHO guidance on water, sanitation and waste management for COVID-19 and National guidelines for Infection Prevention and Control in the healthcare facilities.		
	- Exposure to radiation;	Refer to earlier section above on radiation		

	- Medical equipment failure; -	Provide requisite training during equipment installation. Carry out regular supervision, ensure only trained authorized personnel operate equipment, The manual containing information on how the medical facilities and equipment should be safely handled should be made available to the relevant staff, and Equipment's should be sanitized and disinfected before use to minimize risks of infections.		
Operation of acquired assets for holding potential COVID-19 patients	- Nonuse of the equipment due to lack of technical know how - Risk of misuse of the equipment - Poor maintenance leading to breakdown	Ensure equipment purchased is of the required standard and specifications, Ensure good control measures in purchase of medical equipment, Equipment's should be disinfected before use to minimize risk of infections Provide requisite training during equipment installation, The equipment's manual should be made available to the medical workers for safe routine procedures Prepare maintenance plan for all equipment		
Blood Collection Storage and delivery	- Unsuitable for transfusion	Blood units found to be unsuitable for transfusion should be promptly removed from the blood stock, Place the blood units in a steel container with a lid or in an autoclavable polythene bag as the bags may burst while being autoclaved and cause blood to spray out, Autoclave the blood bags under a pressure 2 bar (200 kPa) at a temperature of 121°C for a minimum of 20 minutes,		

		Treated blood units can be disposed of by burying in a secured landfill		
	- Injuries from sharps - Risk of infectious waste - Exposure to harmful toxins like dioxin and furans	Disinfect infectious liquid waste (e.g. blood samples used for testing, infectious effluent from test procedures) by chemical treatment using at least 1% sodium hypochlorite solution. Only after 30 minutes or more of exposure to the disinfectant, may the inactivated liquid waste be discharged into drains/ sewers for safe dispersal.		
Handling of dead bodies in the case of COVID-19	- Risk of spread of the disease	Use full PPEs (disposable gown with long sleeves, water proof apron, disposable gloves, surgical mask, eye protection, rubber gloves and boots, surgical masks to safely handle; No washing, spraying/ embalming the dead body; Register contact(s) at the HCF, Notify the HCF Director / Medical Superintendent Follow up on health status of the staff		

Annex V: Resource List: COVID-19 Guidance

Given the COVID-19 situation is rapidly evolving, a version of this resource list will be regularly updated and made available on the World Bank COVID-19 operations intranet page (http://covidoperations/).

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 Center, 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 travelers 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
- Water, sanitation, hygiene, and waste management for the COVID-19 virus: interim guidance, issued on April 23, 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 centers, issued on April 4, 2020
- Risk Communication and Community Engagement (RCCE) Action Plan Guidance COVID-19 Preparedness and Response, issued on March 16, 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
- 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 labor 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

CDC Guidance

- Vaccine Storage and Handling Toolkit-November 2020 (cdc.gov) (COVID Annex)
- Healthcare Professions: preparing for COVID-19 Vaccination

Annex VI: Sample Chance Find Procedures

Cultural, historical, natural or archaeological heritage may be damaged or lost during excavations and ensuing construction work activities. In addition, chance finds of heritages during excavations would be at risk of loss, unless due measures are taken to protect and save this heritage. Chance finds procedures will be an integral part of the project ESMP and civil works contracts. If the Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:

Chance Find Procedures	
Step 1	Stop the construction activities in the area of the chance find;
Step 2	Delineate the discovered site or area;
Step 3	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 arranged until the responsible local authorities for Culture and Tourism or the Federal Authority for Research and Conservation of Cultural Heritages take over;
Step 4	Notify the Subproject beneficiary/implementing institution E&S Focal Persons and PIU E&S staff, Project Supervisory Engineer who in turn will notify the responsible local authorities for Culture and Tourism or the Federal Authority for Research and Conservation of Cultural Heritages (within 24 hours or less);
Step 5	The responsible local authorities for Culture and Tourism or the Federal Authority for Research and Conservation of Cultural Heritages would then be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archaeologists of the local/regional or Federal Authorities. The significance and importance of the findings should be assessed according to the various criteria relevant to Proclamation No. 209/2000 on research and conservation of cultural heritage.
Step 6	Decisions on how to handle the finding shall be taken by local authorities for Culture and Tourism or the Federal Authority for Research and Conservation of Cultural Heritages This could include changes in the layout (such as when finding irremovable remains of cultural or archeological importance) conservation, preservation, restoration and salvage.
Step 7	Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the relevant authorities.
Step 8	Construction work may resume only after permission is given by the relevant local/regional or Federal Authorities concerning safeguard of the heritage

Note:

According to Article 41 of Proclamation No. 209/2000 on research and conservation of cultural heritage the measures that should be taken during chance finding of heritages (i.e. Fortuitous Discovery of Cultural Heritage) are the following:

i. Any person who discovers any Cultural Heritage in the course of an excavation connected to mining explorations, building works, road construction or other similar activities or in the course of any other fortuitous event, shall forthwith report same to the Authority, and shall protect and keep same intact, until the Authority takes delivery thereof.
ii. 'The Authority' shall, upon receipt of a report submitted pursuant to Sub-Article (I) hereof, take all appropriate measures to examine, take delivery of, and register the Cultural Heritage so discovered.
iii. Where the Authority fails to take appropriate measures within six month in accordance with Sub- Article (2) of this Article, the 'person who has discovered the Cultural Heritage may be released from his responsibility by submitting, a written, notification with a full description of the situation to the Regional government official.
iv. The Authority, shall ensure that the appropriate reward is granted to the person who has handed over a Cultural Heritage discovered fortuitously in accordance with sub-Articles (I) and (2) of this Article. And such person shall be entitled to reimbursement of expenses, if any, incurred in the course of discharging his duties under this Article.

Annex VII. Code of Conduct for Contractors and workers hired under the COVID-19 ERP and its Vaccine AF

General Code of Conduct for COVID-19 ERP to be inserted in the ESMP and/or Tender documents and Contract

The COVID-19 ERP will comply with ESS2 and ESS4 and the Environmental, Social Health and Safety Guidelines of the WB (ESHS) and the Occupational Health and Safety (OHS) and Labor regulations of Ethiopia. The following is a general Code of conduct to be inserted in the contract of contractors for ERP minor civil works or other contracted activities.

1. Company Code of Conduct for Implementing ESHS and OHS Standards, Preventing Gender Based Violence and Violence against Children

---------- (company name) is committed to ensuring that the project is implemented in such a way which minimizes any negative impacts on the local environment, communities, and its workers. This shall be done by respecting the environmental, social, health and safety (ESHS) standards, and ensuring appropriate occupational health and safety (OHS) standards are met. The company is also committed to creating and maintaining an environment in which gender-based violence (GBV) and violence against children (VAC) have no place, and where they shall not be tolerated by any employee, associate, or representative of the company.

Therefore, in order to ensure that all those engaged in the project are aware of this commitment, the company commits to the following core principles and minimum standards of behavior that shall apply to all company employees, associates, and representatives including sub-contractors, without exception:

General

1. The company, and therefore all employees, associates, and representatives, commits to complying with all relevant national laws, rules and regulations and the World Bank Environmental and Social Standards which can read in the internet in this website:
    a. https://www.worldbank.org/en/projects-operations/environmental-and-social-framework
2. The contractor is responsible to comply with the requirements defined in ESMP which are integral part of the contract.
3. The company commits to full implementing its 'Contractors Environmental and Social Management Plan' (C-ESMP) which will be prepared based on the ESIA/ESMP prepared by the government for the works.
4. The company commits to treating women, children (persons under the age of 18), and men with respect regardless of race, colour, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status. Acts of GBV and VAC are in violation of this commitment.
5. The company shall ensure that interactions with local community members are done with respect and non-discrimination.
6. Demeaning, threatening, harassing, abusive, culturally inappropriate, or sexually provocative language and behaviour are prohibited among all company employees, associates, and its representatives.
7. Respect to reasonable work instructions (including regarding environmental and social norms)
8. Protect and ensure proper use of property (for example, to prohibit theft, carelessness or waste)
9. Prohibit illegal activities by their workers such as: polluting the soil, rivers, wetlands, hunting, poaching wildlife, setting up fires, spilling diesel, oils in the soil, cutting trees without permit.

Health and Safety

10. The company shall ensure to hire professional in occupational health and safety to implement the ESMP.
11. The company shall ensure that the project's occupational health and safety (OHS) management plan is effectively implemented, including wearing prescribed personal protective equipment, preventing avoidable accidents and reporting accidents of all type within less of 24 hours or conditions or practices in the project sites that pose a safety hazard or threaten the environment and the people.
12. The company will:
    a. Prohibit the use of alcohol during work activities.
    b. The company shall prohibit the use of illegal substances, at all times.
13. The company shall ensure that adequate eating, changing and sanitation facilities are available on site and at any worker accommodations provided by the contractor.
14. The company will obey labour, contracting and health and safety regulation in case of accidents, death and incapacity of workers (skilled or no skilled) and pay the compensation required by law.

Gender Based Violence and Violence against Children

15. Acts of GBV or VAC constitute gross misconduct and are therefore grounds for sanctions, which may include penalties and/or termination of employment. All forms of GBV and VAC, including grooming are unacceptable, regardless of whether they take place on the work site, the work site surroundings, at worker's camps or at worker's homes.
16. In addition to company sanctions, legal prosecution of those who commit acts of GBV or VAC shall be pursued if appropriate.
17. Sexual contact or activity with children under 18—including through digital media—is prohibited. Mistaken belief regarding the age of a child is not a defence. Consent from the child is also not a defence or excuse.
18. Sexual Harassment—for instance, making unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct, of a sexual nature, including subtle acts of such behavior, is prohibited. For example: Looking somebody up and down; kissing, howling or smacking sounds; hanging around somebody; whistling and catcalls; giving personal gifts; making comments about somebody's sex life; etc. is prohibited.
19. Sexual favours —for instance, making promises or favourable treatment dependent on sexual acts—or other forms of humiliating, degrading or exploitative behaviour are prohibited.
20. Unless there is full consent[10] by all parties involved in the sexual act, sexual interactions between the company's employees (at any level) and members of the communities surrounding the work-place are prohibited. This includes relationships involving the withholding/promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex—such sexual activity is considered "non-consensual" within the scope of this Code.
21. All employees, including volunteers and sub-contractors are highly encouraged to report suspected or actual acts of GBV and/or VAC by a fellow worker, whether in the same company or not. Reports must be made in accordance with GBV and VAC Allegation Procedures.

[10] **Consent** is defined as the informed choice underlying an individual's free and voluntary intention, acceptance or agreement to do something. No consent can be found when such acceptance or agreement is obtained through the use of threats, force or other forms of coercion, abduction, fraud, deception, or misrepresentation. In accordance with the United Nations Convention on the Rights of the Child, the World Bank considers that consent cannot be given by children under the age of 18, even in the event that national legislation of the country into which the Code of Conduct is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defense.

22. Managers are required to report suspected or actual acts of GBV and/or VAC as they have a responsibility to uphold company commitments and hold their direct reports responsible.

Implementation

To ensure that the above principles are implemented effectively the company commits to ensuring that:

23. All managers sign the 'Manager's Code of Conduct' detailing their responsibilities for implementing the company's commitments and enforcing the responsibilities in the 'Individual Code of Conduct'.
24. All employees sign the project's 'Individual Code of Conduct' confirming their agreement to comply with ESHS and OHS standards, and not to engage in activities resulting in GBV or VAC.
25. Displaying the Company and Individual Codes of Conduct prominently and in clear view at workers' camps, offices, and in in public areas of the work-place. Examples of areas include waiting, rest and lobby areas of sites, canteen areas, health clinics.
26. Ensure that posted and distributed copies of the Company and Individual Codes of Conduct are translated into the appropriate language of use in the work site areas as well as for any international staff in their native language.
27. An appropriate person is nominated as the company's 'Focal Point' for addressing GBV and VAC issues, including representing the company on the GBV and VAC Compliance Team which is comprised of representatives from the client, contractor(s), the supervision consultant, and local service provider(s).
28. Ensuring that an effective GBV and VAC Action Plan is developed in consultation with the Compliance Team which includes as a minimum:
    a. **GBV and VAC Allegation Procedure** to report GBV and VAC issues through the project Grievance Redress Mechanism (GRM);
    b. **Accountability Measures** to protect confidentiality of all involved; and,
    c. **Response Protocol** applicable to GBV and VAC survivors and perpetrators.
29. That the company effectively implements the GBV and VAC Action Plan, providing feedback to the Compliance Team for improvements and updates as appropriate.
30. All employees attend an induction training course prior to commencing work on site to ensure they are familiar with the company's commitments to ESHS and OHS standards, and the project's GBV and VAC Codes of Conduct.
31. All employees attend a mandatory training course once a month for the duration of the contract starting from the first induction training prior to commencement of work to reinforce the understanding of the project's ESHS and OHS standards and the GBV and VAC Code of Conduct.

I do hereby acknowledge that I have read the foregoing Company Code of Conduct, and on behalf of the company agree to comply with the standards contained therein. I understand my role and responsibilities to support the project's OHS and ESHS standards, and to prevent and respond to GBV and VAC. I understand that any action inconsistent with this Company Code of Conduct or failure to take action mandated by this Company Code of Conduct may result in disciplinary action.

Company name: _____

Signature: _____

2. **Manager's Code of Conduct**

Manager's Code of Conduct Implementing ESHS and OHS Standards and Preventing Gender Based Violence and Violence against Children

Managers at all levels have a responsibility to uphold the company's commitment to implementing the ESHS and OHS standards, and preventing and addressing GBV and VAC. This means that managers have an acute responsibility to create and maintain an environment that respects these standards and prevents GBV and VAC. Managers need to support and promote the implementation of the Company Code of Conduct. To this end, managers must adhere this Manager's Code of Conduct and also sign the Individual Code of Conduct. This commits them to supporting the implementation of the C-ESMP and the OHS Management Plan and developing systems that facilitate the implementation of the GBV and VAC Action Plan. They need to maintain a safe workplace, as well as a GBV-free and VAC-free environment at the workplace and in the local community. These responsibilities include but are not limited to:

Implementation

1. To ensure maximum effectiveness of the Company and Individual Codes of Conduct:
    a. Prominently displaying the Company and Individual Codes of Conduct in clear view at workers' camps, offices, and in in public areas of the work-place. Examples of areas include waiting, rest and lobby areas of sites, canteen areas, health clinics.
    b. Ensuring all posted and distributed copies of the Company and Individual Codes of Conduct are translated into the appropriate language of use in the work site areas as well as for any international staff in their native language.
2. Verbally and in writing explain the Company and Individual Codes of Conduct to all staff.
3. Ensure that:
    a. All direct reportees sign the 'Individual Code of Conduct', including acknowledgment that they have read and agree with the Code of Conduct.
    b. Staff lists and signed copies of the Individual Code of Conduct are provided to the OHS Manager, the Compliance Team, and the client.
    c. Participate in training and ensure that staff also participate as outlined below.
    d. Put in place a mechanism for staff to:
        i. report concerns on ESHS or OHS compliance; and,
        ii. confidentially report GBV or VAC incidents to the Grievance Redress Mechanism (GRM)
    e. Staff are encouraged to report suspected or actual ESHS, OHS, GBV or VAC issues, emphasizing the staff's responsibility to the Company and the country hosting their employment, and emphasizing the respect for confidentiality.
4. In compliance with applicable laws and to the best of your abilities, prevent perpetrators of sexual exploitation and abuse from being hired, re-hired or deployed. Use background and criminal reference checks for all employees.
5. Ensure that when engaging in partnership, sub-contractor or similar agreements, these agreements:
    a. Incorporate the ESHS, OHS, GBV and VAC Codes of Conduct as an attachment.
    b. Include the appropriate language requiring such contracting entities and individuals, and their employees and volunteers, to comply with the Individual Codes of Conduct.
    c. expressly state that the failure of those entities or individuals, as appropriate, to ensure compliance with the ESHS and OHS standards, take preventive measures against GBV and VAC, to investigate allegations thereof, or to take corrective actions when GBV or VAC has occurred, shall constitute grounds for sanctions and penalties in accordance with the Individual Codes of Conduct.

6. Provide support and resources to the Compliance Team to create and disseminate internal sensitization initiatives through the awareness-raising strategy under the GBV and VAC Action Plan.
7. Ensure that any GBV or VAC issue warranting police action is reported to the client and the World Bank immediately.
8. Ensure that any major ESHS or OHS incidents are reported to the client and the supervision engineer immediately.

Training

9. The managers are responsible to:
    a. Ensure that the OHS Management Plan is implemented, with suitable training required for all staff, including sub-contractors and suppliers; and,
    b. Ensure that staff have a suitable understanding of the C-ESMP and are trained as appropriate to implement the C-ESMP requirements.
10. All managers are required to attend an induction manager training course prior to commencing work on site to ensure that they are familiar with their roles and responsibilities in upholding the GBV and VAC elements of these Codes of Conduct. This training shall be separate from the induction training course required of all employees and shall provide managers with the necessary understanding and technical support needed to begin to develop the GBV and VAC Action Plan for addressing GBV and VAC issues.
11. Managers are required to attend and assist with the project facilitated monthly training courses for all employees. Managers shall be required to introduce the trainings and announce the self-evaluations, including collecting satisfaction surveys to evaluate training experiences and provide advice on improving the effectiveness of training.
12. Ensure that time is provided during work hours and that staff prior to commencing work on site attend the mandatory project facilitated induction training on:
    a. OHS and ESHS; and,
    b. GBV and VAC required of all employees.
13. During civil works, ensure that staff attend ongoing OHS and ESHS training, as well as the monthly mandatory refresher training course required of all employees to combat increased risk of GBV and VAC.

Response

14. Managers shall be required to take appropriate actions to address any ESHS or OHS incidents.
15. With regard to GBV and VAC:
    a. Provide input to the GBV and VAC Allegation Procedures and Response Protocol developed by the Compliance Team as part of the final cleared GBV and VAC Action Plan.
    b. Once adopted by the Company, managers shall uphold the Accountability Measures set forth in the GBV and VAC Action Plan to maintain the confidentiality of all employees who report or (allegedly) perpetrate incidences of GBV and VAC (unless a breach of confidentiality is required to protect persons or property from serious harm or where required by law).
    c. If a manager develops concerns or suspicions regarding any form of GBV or VAC by one of his/her direct reportees, or by an employee working for another contractor on the same work site, s/he is required to report the case using the GRM.
    d. Once a sanction has been determined, the relevant manager(s) is/are expected to be personally responsible for ensuring that the measure is effectively enforced, within a maximum timeframe of 14 days from the date on which the decision to sanction was made

e. If a Manager has a conflict of interest due to personal or familial relationships with the survivor and/or perpetrator, he/she must notify the respective company and the Compliance Team. The Company shall be required to appoint another manager without a conflict of interest to respond to complaints.

16. Managers failing to address ESHS or OHS incidents or failing to report or comply with the GBV and VAC provisions may be subject to disciplinary measures, to be determined and enacted by the company's CEO, Managing Director or equivalent highest-ranking manager. Those measures may include:
    f. Informal warning.
    g. Formal warning.
    h. Additional Training.
    i. Loss of up to one week's salary.
    j. Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
    k. Termination of employment.
17. Ultimately, failure to effectively respond to ESHS, OHS GBV and VAC cases on the work site by the company's managers or CEO may provide grounds for legal actions by authorities.

I do hereby acknowledge that I have read the foregoing Manager's Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to ESHS, OHS GBV and VAC requirements. I understand that any action inconsistent with this Manager's Code of Conduct or failure to take action mandated by this Manager's Code of Conduct may result in disciplinary action.

Signature: _____

Printed Name: _____

Title: _____

3. Code of Conduct to be signed by individual workers (skilled and unskilled, casual or non-casual) for Preventing Gender Based Violence (GBV) and Violence against Children (VAC)

I, _____, acknowledge that adhering to environmental, social health and safety (ESHS) standards, following the project's occupational health and safety (OHS) requirements, and preventing gender-based violence (GBV) and violence against children (VAC) is important. All forms of GBV or VAC are unacceptable, be it on the work site, the work site surroundings, at worker's camps, or the surrounding communities.

The company considers that failure to follow ESHS and OHS standards, or to partake in GBV or VAC activities, constitute acts of gross misconduct and are therefore grounds for sanctions, penalties or potential termination of employment. Prosecution of those who commit GBV or VAC may be pursued if appropriate.

I agree that while working on the project I will:

- Attend and actively partake in training courses related to ESHS, OHS, HIV/AIDS, GBV and VAC as requested by my employer.
- Shall wear my personal protective equipment (PPE), in the correct prescribed manner, at all times when at the work site or engaged in project related activities.
- Take all practical steps to implement the contractor's environmental and social management plan (CESMP).
- Implement the OHS Management Plan.
- Adhere to a zero-alcohol policy during work activities, and refrain from the use of illegal substances at all times.
- Consent to a police background check.
- Treat women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
- Not use language or behavior towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
- Not participate in sexual contact or activity with children—including grooming or contact through digital media. Mistaken belief regarding the age of a child is not a defense. Consent from the child is also not a defense or excuse.
- Not engage in sexual harassment—for instance, making unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct, of a sexual nature, including subtle acts of such behavior. Ex. Looking somebody up and down; kissing, howling or smacking sounds; hanging around somebody; whistling and catcalls; giving personal gifts; making comments about somebody's sex life; etc.
- Not engage in sexual favors—for instance, making promises or favorable treatment dependent on sexual acts—or other forms of humiliating, degrading or exploitative behavior.
- Unless there is the full consent[11] by all parties involved, I shall not have sexual interactions with members of the surrounding communities. This includes relationships involving the withholding or promise of actual provision of benefit (monetary or non-monetary) to

[11] **Consent** is defined as the informed choice underlying an individual's free and voluntary intention, acceptance or agreement to do something. No consent can be found when such acceptance or agreement is obtained through the use of threats, force or other forms of coercion, abduction, fraud, deception, or misrepresentation. In accordance with the United Nations Convention on the Rights of the Child, the World Bank considers that consent cannot be given by children under the age of 18, even in the event that national legislation of the country into which the Code of Conduct is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defense.

community members in exchange for sex—such sexual activity is considered "non-consensual" within the scope of this Code.

- Consider reporting through the GRM (Grievance Redress Mechanism) or to my manager any suspected or actual GBV or VAC by a fellow worker, whether employed by my employer or not, or any breaches of this Code of Conduct.

With regard to children under the age of 18:

- Wherever possible, ensure that another adult is present when working in the proximity of children.
- Not invite unaccompanied children unrelated to my family into my home, unless they are at immediate risk of injury or in physical danger.
- Not sleep close to unsupervised children unless absolutely necessary, in which case I must obtain my supervisor's permission, and ensure that another adult is present if possible.
- Use any computers, mobile phones, or video and digital cameras appropriately, and never to exploit or harass children or to access child pornography through any medium (see also "Use of children's images for work related purposes" below).
- Refrain from physical punishment or discipline of children.
- Refrain from hiring children for domestic or other labor which is inappropriate given their age or developmental stage, which interferes with their time available for education and recreational activities, or which places them at significant risk of injury.
- Comply with all relevant local legislation, including labor laws in relation to child labor.

Use of children's images for work related purposes

When photographing or filming a child for work related purposes, I must:

- Before photographing or filming a child, assess and endeavor to comply with local traditions or restrictions for reproducing personal images.
- Before photographing or filming a child, obtain informed consent from the child and a parent or guardian of the child. As part of this I must explain how the photograph or film shall be used.
- Ensure photographs, films, videos and DVDs present children in a dignified and respectful manner and not in a vulnerable or submissive manner. Children should be adequately clothed and not in poses that could be seen as sexually suggestive.
- Ensure images are honest representations of the context and the facts.
- Ensure file labels do not reveal identifying information about a child when sending images electronically.

Sanctions

I understand that if I breach this Individual Code of Conduct, my employer shall take disciplinary action which could include:

- Informal warning.
- Formal warning.
- Additional Training.
- Loss of up to one week's salary.
- Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
- Termination of employment.
- Report to the police if wanted.

I understand that it is my responsibility to ensure that the environmental, social, health and safety standards are met. That I shall adhere to the occupational health and safety management plan. That I shall avoid actions or behaviors that could be construed as GBV or VAC. Any such actions shall be a breach this Individual Code of Conduct. I do hereby acknowledge that I have read the foregoing Individual Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to ESHS, OHS, GBV and VAC issues. I understand that any action inconsistent with this Individual Code of Conduct or failure to take action mandated by this Individual Code of Conduct may result in disciplinary action and may affect my ongoing employment.

Signature: _____

Printed Name: _____

Title: _____

Date: _____

Contractor_____
Supervisor_____
Date_____

Annex XIII: NATIOAL EIA PROCEDURAL GUIDELINE FOR SCHEDULE OF ACTIVITIES

Schedule I. List of projects that require FULL EIA.

1. Agriculture

- water management projects for agriculture (drainage, irrigation)
- large scale mono- culture (cash and food crops)
- Pest control projects
- Fertilizer and nutrient management
- Land development schemes covering an area of 500 hectares or more to bring forest land into agricultural production
- Agricultural programmers necessitating the resettlement of 100 families or more.
- Development of agricultural estates covering an area of 500 hectares or more
- Construction of dams, man-made lakes, and artificial enlargement of lakes with surface areas of 200 hectares or more.
- Drainage of wetlands wildlife habitat or of virgin forest covering an area of 100 meters or more.
- Introduction of new breed, species of crops, seeds or animals
- Surface water fed irrigation projects covering more than 100 hectares
- Ground water fed irrigation projects more than 100 hectares
- River diversions and water transfers between catchments

2. Livestock and Range management

- Large Scale livestock movement
- Introduction of new breeds of livestock
- Introduction of improved forage species
- Large scale open range rearing of cattle, horses, sheep etc
- Large scale livestock production in Urban area
- Large scale slaughter house construction
- Ectoparasite management (cattle dips, area treatment)
- Intensive livestock rearing units

3. Forestry activities

- Timber logging and processing
- Forest plantation and afforestation and introduction of new species
- selective removal of single commercial tree species
- pest management
- Conversion of hill forest land to other land use

- Logging or conversion of forest land to other land use within the catchments area of reservoirs used for municipal water supply, irrigation or hydropower generation or in areas adjacent to parks
- Logging with special emphasis for endangered tree species
- Large scale afforestation/reforestation, mono-culture forest plantation projects which use exotic free species
- Conversion of forest areas which have a paramount importance of biodiversity conservation to other land use
- Resettlement programs in natural forest and woodland areas.

4. Fisheries activities

- Medium to large scale fisheries
- Artificial fisheries (Aqua-culture for fish, algae, crustaceans shrimps, lobster or crabs).
- Introduction of new species in water bodies commercial fisheries

5. Wildlife

- introduction of new species
- wildlife catching and trading
- hunting
- wildlife ranching and farming
- zoo and sanctuaries

6. Tourism and Recreational Development

- Construction of resort facilities or hotels along the shorelines of lakes, river, islands and oceans
- Hill top resort or hotel development
- Development of tourism or recreational facilities in protected and adjacent areas (national parks, marine parks, forestry reserves etc) on islands and in surrounding waters
- Hunting and capturing
- Camping activities walk ways and trails etc.
- sporting and race tracts/sites
- Tour operations

7. Energy Industry

- Production and distribution of electricity, gas, steam and hot water
- Storage of natural gas
- Construction of off shore pipelines in excess of 50 km in length
- High power transmission line
- Construction of combined cycle power station
- Thermal power development (i.e. coal, nuclear)
- Hydro-electric power
- Bio-mass power development
- Wind -mills power development
  - Solar (i.e. Impact due to pollution during manufacture of solar devices, acid battery spillage and improper disposal of batteries)

- Nuclear energy

8. Petroleum Industry

- Oil and gas fields exploration and development, including Construction of offshore and onshore pipelines
- Construction of oil and gas separation, processing, handling and storage facilities.
- Construction of oil refineries
- Construction of product deposits for the storage of petrol, gas, diesel, tar and other products within commercial, industrial or residential areas.
- Transportation of petroleum products

9. Food and beverage industries

- manufacture of vegetable and animal oils and fats
- oil refinery and ginneries
- processing and conserving of meat
- manufacture of dairy products
- brewing distilling and malting
- fish meal factories
- slaughter - houses
- soft drinks
- tobacco processing
- caned fruits, and sources
- sugar factories
- other agro-processing industries

10. Textile in industry

- cotton and Synthetic fibres
- dye for cloth
- ginneries

11. Leather Industry

- tanning
- tanneries
- dressing factories
- other cloth factories

12. Wood, Pulp and Paper Industries

- manufacturing of veneer and plywood
- manufacturing of fiber board and of particle - board
- manufacturing of Pulp, Paper, sand-board cellulose – mills

13. Building and Civil Engineering Industries.

- industrial and housing Estate
- major urban projects (multi-storey building, motor terminals, markets etc)
- tourist installation
- construction and expansion/upgrading of roads, harbours, ship yards, fishing harbours, air fields(having an air strips of 2,500mor long) and ports, railways and pipelines
- River drainage and flood control works.
- hydro - electric and irrigation dams
- reservoir
- Storage of scrap metal.
- military installations
- construction and expansion of fishing harbours
- developments on beach fronts

14. Chemical industries

- manufacture, transportation, use and storage of pesticide or other hazardous and or toxic chemicals
- production of pharmaceutical products
- storage facilities for petroleum, petrochemical and other chemical products (i.e. filling stations)
- Production of paints vanishes, etc.

15. Extractive industry

- extraction of petroleum
- extraction and purification of natural gas
- other deep drilling - bore-holes and wells
- mining
- quarrying
- coal mining
- Sand dredging.

16. Minerals extraction and processing

- Metallic minerals such as Iron, Lead, Copper, Nickel
- Industrial minerals such as kaolin, diatomite,
- Construction Minerals
- Mineral Water
- Thermal Water
- Extraction of salts from brines.

17. Non-metallic industries (Products)

- manufacture of cement, asbestos, glass, glass-fibre, glass-wool
- processing of rubber
- plastic industry
- lime manufacturing, tiles, ceramics

18. Metal and Engineering industries.

- manufacture and assembly of motor - vehicles
- manufacture of other means of transport (trailers, motor-cycles, motor-vehicle bicycles-cycles)
- body - building
- boiler - making and manufacture of reservoirs, tanks and other sheet containers
- foundry and Forging
- manufacture of non - ferrous products
- iron and steel
- electroplating

19. Waste treatment and disposal

(a) Toxic and Hazardous waste

- construction of Incineration plants
- construction of recovery plant (off-site)
- construction of waste water treatment plant (off-site)
- construction of secure landfills facility
- construction of storage facility (off - site)
- Collection and transportation of waste.
- installation for the disposal of industrial waste

(b) Municipal Solid Waste

- construction of incineration plant
- construction of composting plant
- construction of recovery/re-cycling plant
- construction of Municipal Solid Waste landfill facility
- construction of waste depots.
- collection and transportation

(c) Municipal Sewage

- construction of waste water treatment plant
- construction of marine out fall
- Night soil collection transport and treatment.
- construction of sewage system

20. Water Supply

- canalization of water courses
- diversion of normal flow of water
- water transfers scheme
- abstraction or utilization of ground and surface water for bulk supply
- water treatment plants
- Construction of dams, impounding reservoirs with a surface area of 100 hectars
- Ground water development for industrial, agricultural or urban water supply of greater than 4000 m^3 /day
- Drainage Plans in towns close to water bodies

21. Transport

- Major urban roads
- Rural road programmes
- Rail infrastructure and railways
- Trans-regional and International high way
- Upgrading or rehabilitation of major rural roads
- Airports with basic runway

22. Health projects

- vector control projects (malaria, bilharzias, trypanosomes etc)

23. Land Reclamation and land development

- rehabilitation of degraded lands
- dredging of bars, greyone, dykes, estuaries etc.
- spoil disposal.

24. Resettlement/relocation of people and animals

- resettlement plan
- establishment of refugee camps

25. Multi-sectoral Projects

- Agro-forestry
  - ♦dispersed field - tree inter-cropping
  - ♦alley cropping
  - ♦living fences and other linear planting
  - ♦windbreak/shelterbelts
  - ♦taungya system
- Integrated conservation and development programmes e.g. protected areas.
- Integrated Pest Management (e.g. IPM)
- Diverse construction - public health facilities, schools, storage building, tree
- Nurseries, facilities for ecotourism and field research in protected areas, enclosed latrines, small enterprises, logging mills, manufacturing furniture carpentry shop, access road, well digging, camps, dams, reservoirs.
- River basin development and watershed management projects
- Food aid, humanitarian relief

26 .Trade: Importation and Exportation of the following

- hazardous Chemicals/Waste
- plastics
- petroleum products
- vehicles

- used materials
- wildlife and wildlife products
- pharmaceuticals
- food
- beverages
- GMOs and GMOs based products

27. Public instruments

- decisions to change designated status
- family planning
- technical assistance
- development strategies
- urban and rural land use development plans eg master plans,
- structural adjustment,
- national budget
- Policies and Programmes formulations, etc

28. All projects in environmentally sensitive areas should be treated as equivalent to Schedule 1 activity irrespective of the nature of the project.

Schedule. 2. List of Projects That Require A PRELIMINARY ENVIRONMENTAL IMPACT Study.

A List of Small - Scale Activities and Enterprises

- Fish culture
- Bee-keeping
- Small animal husbandry and urban livestock keeping
- Horticulture and floriculture
- Wildlife catching and trading
- Production of tourist handicrafts
- Charcoal production
- Fuel wood harvesting
- Wooden furniture and implement making
- Basket and other weaving
- Nuts and seeds for oil processing
- Bark for tanning processing
- Brewing and distilleries
- Bio-gas plants
- Bird catching and trading
- Hunting
- Wildlife ranching
- Zoo, and sanctuaries
- Tie and dye making
- Brick making

- Beach sailing
- Sea weed Farming
- Salt pans
- graves and cemeteries
- Urban Livestock Keeping
- Urban agriculture.
- Fish landing stations.
- Wood carving and sculpture
- Hospitals and dispensaries, Schools, Community centre and Social halls, play grounds
- Wood works e.g. boat building
- Market places (livestock and commodities).
- Technical assistance
- Rain water harvesting
- Garages
- Carpentry
- Black smith.
- Tile manufacturing
- Kaolin manufacturing
- Vector control projects e.g. Malaria, Bilharzia, trypanosomes
- Livestock stock routes
- Fire belts.
- Tobacco curing kilns
- Sugar refineries
- Tanneries
- Pulp plant
- Oil refineries and ginneries
- artisanal and small scale mining
- Rural road
- Research having the potential to affect ecosystems functions, use, or the health and welfare of the society.
- Rural water supply and sanitation
- Land drainage (small scale)
- Sewerage system

Schedule 3. Lists of Projects That May Not Require Environmental Impact Assessment

1. Social infrastructure and services

    - Educational facilities (small scale)
    - Audio visual production
    - Teaching facilities and equipment
    - Training
    - Medical centre (small scale)
    - Medical supplies and equipment

- Nutrition
- Family planning

2. Economic infrastructure and services

- Telecommunication
- Research, small scale

3. Production Sector

- Irrigation
  - Surface water fed irrigation projects covering less than 50 hectares
  - Ground water fed irrigation projects covering less than 50 hectares
- Agriculture
  All small scale agricultural activities
- Forestry
  - Protected forest reserves (small scale)
  - Productive forest reserves (small scale)
- Livestock
- Rearing of cattle (<50 heads); pigs (<100 heads), or poultry (<500 heads)
  - Livestock fattening projects (small scale)
  - Bees keeping projects (small scale)
- Fisheries
  - Artesian fisheries (small scale)
    - Industry
  - Agro industrial (small scale)
  - Other small scale industries having no impact to the environment
- Trade
  - All small scale trades except trade in endangered species and hazardous materials
- Financial assistance
  - Programme assistance
  - Non-project or special country support
  - Food aid not involving GMOs based food
- Emergency Operations
  - Assistance to refugee returned and displaced person

4. All projects involved in environmental enhancement programs