SFG2025

REPUBLIC OF LIBERIA

EBOLA RECOVERY AND RECONSTRUCTION TRUST FUND

Strengthening Liberia Health System Project (P158005)

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

February 2016

ABBREVIATIONS AND ACRONYMS

AMD	A.M Dogliotti College of Medicine
CHDCs	Community Health Development Committees
CRVS	CivilRegistration and Vital Statistics
EERP	Emergency Ebola Response Project
EIA	Environmental Impact Assessment
EmONC	Emergency Obstetric and Newborn Care
ESIA	Environmental Social Impact Assessment
EPA	Environmental Protection Agency of Liberia
ERRTF	Ebola Recovery and Reconstruction Trust Fund
ESMF	Environmental Social Management Framework
ESMP	Environmental Social Management Plan
EVD	Ebola Virus Disease
GHG	Greenhouse Gas
HSSP	Health Systems Strengthening Project
HWP	Health Workforce Program
IDSR	Integrated Disease Surveillance and Response
MCH	Maternal and Child Health
MDSR	Maternal and Neonatal Death Surveillance and Response
MOH	Ministry of Health
OP	Operation Policy
PCBs	Polychlorinated biphenyl
PIU	Project Implementation Unit
PV	Photovoltaic
RMNCAH	Reproductive Maternal Neonatal Child and Adolescent Health
STDs	Sexually Transmitted Diseases
TA	Technical Assistance
UNICEF	United Nations Children's Emergency Fund
UNFPA	United Nations Population Fund
UNOPS	The United Nations Office for Project Services
WHO	World Health Organization

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EXECUTIVE SUMMARY

BACKGROUND

This ESMF is a revised version of the ESMF prepared and disclosed for the Emergency Ebola Response Project (EERP). This project aims to contribute to the improvement of maternal and neonatal health services through strengthening: (a) the learning environment at the medical school; and, (b) health facility and community services in target health facilities. The project is intended to both compliment and supplement the support provided through the EERP, the Health Systems Strengthening Project (HSSP), and the HSSP Additional Financing which is under preparation.

The ERRTF has three main components:

Component 1: Strengthening of medical school (AMD) learning environment

This component aims to strengthen Liberia's health workforce by improving the student learning environment at the A.M Dogliotti College of Medicine (AMD). Activities under this component will include renovation works of basic infrastructure and provision of operational support for the effective operation of the institution.

Component 2: Support to improve reproductive, maternal, and neonatal health services delivery

This component aims to strengthen the capacity of the national health system as a whole in order to reduce maternal and newborn mortality. To achieve this, the project aims to, *inter alia*, increase access to and utilization of comprehensive maternal health services as well as improve the capacity of community health structures to deliver and monitor maternal health service provision in target facilities and catchment communities.

Component 3: Grant management and monitoring and evaluation (M&E)

This component covers the operational costs associated with effectively managing, monitoring and evaluating grant activities. Specifically, support will be provided to the on-going- World Bank supported- Project Implementation Unit (PIU), which will be responsible for all day-to-day activities associated with the grant, as well as procurement, fiduciary management, auditing and grant monitoring activities.

Overview of the World Bank's Safeguard Policies

Civil works will be undertaken under component 1 of this project. This will include construction of a dining hall and a new dormitory at AMD (in addition to rehabilitation of an existing dormitory), as well as rehabilitation of faculty accommodation and the faculty office block, depending on the availability of funding. In addition to the potential impacts associated with renovation and new construction activities, the operation of health care facilities have the potential to generate health care wastes that will need to be managed. The ERRTF has therefore

triggered one of the World Bank Safeguard Policies, namely the OP 4.01 Environmental Assessment. No land acquisition or any form of displacement is anticipated as construction works will be carried out exclusively in existing facilities that are already owned by the Government of Liberia. This ESMF has been developed in response to this triggered policy. This EMSF-actually a revised version of the ESMF developed for the EERP-and the Updated Medical Waste Management Plan also developed under the EERP are the instruments that will be used to manage the impacts of this project.

Potential Environmental and Social Impacts of the ERRTF

The environmental impacts of the ERRTF can be classified into two main categories-impacts arising from civil works, and those arising from handling and disposal of medical wastes and other products usually generated during the provision of health care. Impacts associated with the civil works will include noise and air pollution, generation of construction wastes, and occupational health and safety concerns related to works of this nature. Exposure to hazardous substances and risks associated with working at height, operation of potable power tools and equipment amongst others. The potential impacts of the project are not severe and can be adequately mitigated using the instruments that have been developed.

Despite the potential negative impacts associated with this project, the positive environmental and social impacts clearly outweigh any negative impacts. For example, the project aims to tackle the poor learning environment and living condition of medical students, which is partly responsible for low enrollment and high attrition of medical students. Improved conditions could increase enrollment and reduce attrition, and this could gradually increase the number of qualified medical school graduates to provide services to improve the wellbeing of the citizenry.

Institutional arrangements for implementation of ESMF

The ultimate responsibly for implementation of the safeguards instruments developed for this project including this ESMP lies with the MOH through its project implementation unit. The MOH should ensure that construction contractors are aware of these instruments and that they are included in any contractual agreement between the MOH and Contractors. Actual application of environmental mitigation measures would be construction contractor's responsibility. The MOH has the ultimate responsibility to monitor and ensure contractor's adherence to the project environmental instruments. The Bank through its usual project implementation support will also monitor contractor's compliance with the approved safeguards instruments. Relevant external agencies such as the EPA also have the statutory mandate to monitor contractor's compliance at any time.

Cost Estimates for Implementing the ESMF

The main cost for implementing the ESMF is the cost for hiring a safeguards specialist and cost associated with monitoring of safeguards instruments implementation. The safeguards instruments will also need to be disclosed in country after public consultations. An independent audit of the safeguards implementation is also proposed. The total budget for all these activities will be approximately $75,000.00. Detailed breakdown of the budget is provided in Table 4 (ESMF Implementation Costs) below.

1. INTRODUCTION

1.1 Project Description

The World Bank financed project aims to contribute to the improvement of maternal and neonatal health services through strengthening: (a) the learning environment at the medical school; and (b) health facility and community services in target health facilities. The project has three main components as described below.

Component 1: Strengthening of medical school (AMD) learning environment (US$2.3 million)

This component aims to strengthen Liberia's health workforce by improving the student learning environment at the AMD. This Grant will compliment and supplement the support provided through EERP and HSSP/ HSSP AF to address the shortage of high quality faculty for the graduate medical residency program. This Project, through Component 1, will focus on another bottleneck: the poor learning environment and living conditions at AMD, which contribute to low enrollment and high attrition of medical students[1]. Current challenges include: unstable electricity and internet; the lack of a skills lab to learn through hands-on practice; and, overcrowded dormitories. With regards to the latter, for example, 18 students are currently housed in each 3-bedroom apartment, with 6 students sharing a bedroom, and all 18 students sharing one bathroom with no running water. There are no desks or tables for studying. Based on the assessment of the infrastructure needs and discussions with the MOH and AMD, the main activities supported by this component will include the following:

(i) Renovate the existing dormitory, and construct a new dormitory and dining hall at the AMD College of Medicine to accommodate the current and estimated additional number of medical students to meet students' basic living needs.
(ii) Improve the basic infrastructure environment, to provide running water and 24-hour electricity, and internet.
(iii) Establish and equip AMD with two additional classrooms, a new lecture hall, and a skills lab[2].
(iv) Provide other operational support (e.g., supplies, logistics) for students, faculty, and management team; this includes, but is not limited to, updating the faculty office block and faculty accommodations.

Component 2: Support to improve reproductive, maternal, and neonatal health services delivery (US$2.3 million)

This component aims to strengthen the capacity of the national health system in their efforts to reduce maternal and newborn mortality. Activities will be underpinned by knowledge gleaned from high impact evidence-based interventions that are known to have significantly contributed

[1] A comprehensive assessment of training institutions, conducted by the MOH.
[2] Most equipment for the lab will be provided by the EERP.

to the reduction of maternal mortality in similar contexts, whilst building on existing systems and structures at all levels of healthcare delivery.

Specifically, activities proposed under this component will: (a) increase access to and utilization of comprehensive maternal health services including EmONC and family planning; (b) improve the technical skills and capacity of health care providers to provide quality services; (c) improve MDSR; and (d) improve the capacity of community health structures to deliver and monitor maternal health service provision in target facilities and catchment communities. Activities implemented at health facilities will be based on a detailed needs assessment. Component activities will be divided across four sub-components (which are outlined below), and will focus on 8 target facilities in 6 counties (Table 2), selected by the MOH[3] based on the following criteria: (i) high case load; (ii) high maternal deaths; and (iii) hardest hit by EVD.

Sub-Component 2.1: ***Support target health facilities to provide comprehensive maternal health care including EmONC services*** through the following key activities: (a) supervision and monitoring of maternal and newborn health services; and (b) procurement and distribution of essential equipment, lifesaving drugs, contraceptives, and medical supplies, along with solar equipment to be attached to the roof of target health facilities[4] to provide 24 hour electricity for the provision of quality maternal health services in selected referral centers. Also, in an effort to improve the referral chain, transportation and communication equipment will be provided to target facilities). Finally, robust and innovative mobile technology approaches will be used to improve the supply of essential drugs and contraceptives.

Sub-Component 2.2: ***Ensure the availability of skilled providers*** in all 8 targeted health facilities 24 hours a day, seven days a week through training and deployment of midwives to these health facilities. This will involve identifying human resource gaps in health facilities, and potential recruitment and deployment of midwives in close coordination with the HWP task force; and refresher trainings for ~75 skilled providers in RMNCAH topics (e.g. EmONC/Life Saving Skills, Helping Baby Breathe /Helping Mothers Survive, Family Panning, Infection Prevention and Control) and for instructional staff on use of laboratory materials in an effort to improve the clinical skills of pre-service cadres.

4. Sub-Component 2.3: ***Strengthen MDSR and expand it to district and community levels*** for the eight targeted health facilities and their catchment communities to provide reliable data on maternal deaths. This process will involve: (a) technical and financial support to MDSR in line with international standards and link this with the CRVS system; (b) create awareness and sensitization on MDSR to target communities; and (c) develop an innovative approach using mobile technology to ensure timely identification and notification of maternal deaths at community and district levels. The latter will be piloted in 2 out of the targeted 8 facilities.

Sub-Component 2.4: ***Strengthen health structures in 8 catchment communities to deliver and monitor maternal health services and MDSR***. This process will involve the following key activities: (a) training and equipping contact tracers (who will transition into CHWs) to provide community based outreach maternal health services as well as the distribution of Family Planning commodities; (b) capacity building to Community Health Development Committees

[3] Family Health Division, and County Health Services Department.
[4] This will involve minimal social impact as the panel will be attached to the roof of the health facilities and there is no need for additional land for the solar facility.

(CHDCs) in targeted catchment communities to monitor reproductive health services at community and health facility levels; and (c) awareness-building and sensitization on maternal health services through multimedia and other traditional community communication channels.

Component 3: Grant management and monitoring and evaluation (M&E) (US$0.3 million)

This component covers the operational costs associated with effectively managing, monitoring and evaluating grant activities. Specifically, support will be provided to the on-going- World Bank supported- Project Implementation Unit (PIU), which will be responsible for all day-to-day activities associated with the grant, as well as procurement, fiduciary management, auditing and grant monitoring activities (including any surveys). The PIU will also be responsible for ensuring necessary monitoring and evaluation (M&E) activities at grant baseline, mid-line and end-line.

Specific activities that will be supported under this component include the following: (a) Development of a monitoring framework and work plan and ensure that activity implementation is timely and responsive at various levels; (b) recruitment and deployment of project staff to monitor project implementation and reporting; (c) procurement of logistics to conduct effective monitoring of project implementation; (d) development and dissemination of periodic reports on project implementation; and (e) project evaluation and report dissemination

1.2 Situation Analysis during the EVD outbreak

Since 2003, Liberia has made significant progress until Ebola struck in March 2014. Although the process of rebuilding and rehabilitating its health infrastructure was well-underway, important gaps remained. The Ebola epidemic exposed prior vulnerabilities of the health system.

The following information was presented by the World Health Organization, December 10-11 2014.

Prior to the Ebola outbreak Liberia had a national plan in place. Although health expenditure was still very low, health expenditure was rising ($102 per capita (PPP, int. $), 2000-2013**.** Moreover, there was major progress on health indicators especially child mortality and coverage of interventions. However, many health systems elements remained very weak. 30% of the population live >5 km from a health facility, there is only one doctor for 30,000 people and the majority of clinicians are concentrated in the capital city.

Liberia also has weak disease surveillance systems. Liberia failed to attain the minimum IHR core capacities and by 2014 some level of training had taken place at national level on Integrated Disease Surveillance and Response (IDSR). However, with the revision of the current IDSR Guidelines, no training has taken place.

Liberia faced the challenge of addressing the Ebola outbreak while simultaneously managing prominent Maternal and Child Health (MCH) and infectious disease challenges. Unfortunately, the Ebola Virus Disease (EVD) epidemic resulted in large drops in facility attendance. There was a 50% drop in institutional deliveries, a 26% drop in child immunizations and a major drop (two-thirds) in August 2014 for almost all services compared to May- June 2014. 62% of health facilities were closed.

In conclusion, Liberia was making major progress on several health MDG indicators. However, the overall system remained fragmented and unable to cope with unexpected challenges. Ebola has made an impact on health gains over and above its contribution to mortality by indirectly affecting all services and economic activity. This puts health (and economic/social) gains of the past decade at serious risk.

2. ENVIRONMENTAL AND SOCIAL ASPECTS OF PROJECT

Component 1 of the ERRTF is the project component that has the potential to generate the most environmental concerns that need to be addressed. This component will include activities such as:

(i) Renovate the existing dormitory, and construct a new dormitory and dining hall at the AMD College of Medicine to accommodate the current and estimated additional number of medical students to meet students' basic living needs.

(ii) Improve the basic infrastructure environment, to provide running water and 24-hour electricity, and internet.

(iii) Establish and equip the AMD College of Medicine with two additional classrooms, a new lecture hall, and a skills lab

It is however important to note that construction activities proposed under the ERRTF will be implemented in the existing facilities and are not expected to involve land acquisition or involuntary displacement of people, and that all the potential construction-related environmental, social, health and safety impacts are expected to be moderate and can be mitigated. However, the usual environment, health and safety concerns such as construction wastes disposal, health and safety of workers, and healthcare wastes management are among the main concerns that need to be addressed.

Some activities under Component 2 of the project such as *increase access to and utilization of comprehensive maternal health services including EmONC and family planning* and *procurement and distribution of essential equipment, lifesaving drugs, contraceptives, and medical supplies* have the potential to generate environmental and social impacts. Increased access to health services, for instance, could lead to an increase in health care waste, which could have negative impacts on the environment if not managed properly. However, these impacts, like the construction-related impacts, can also be mitigated. Given that capacity for medical waste management in-country is generally low, support will be required to ensure that the risks are properly mitigated. This will be supplemented by a Technical Assistance (TA) firm to be hired through the EERP for Component 1, and support from UNFPA on waste management and their oversight on rehabilitation under Component 2. The National Medical Waste Management Plan prepared under the ERRP will be updated and used under this project to manage healthcare waste.

Also under Component 2, impacts associated with the supply, installation and use of solar panels have been assessed. The overall impact of this sub component will be positive. Solar PVs are renewable and cleaner energy that will reduce dependence on diesel powered generators and the consequence reduction in GHG gas. There are of course potential negative impacts including risk of fire, visual intrusion, and decommissioning of panels. The major potential impacts are associated with the decommissioning stage given the presence of hazardous chemicals in the panels. Installation will be done on roof top of existing facilities so there are no concerns about biodiversity loss. Annex 6 contains mitigation measures for these potential impacts. In addition to the measures provided in this ESMF, UNFPA who is responsible for this sub component will

conduct a desk study and a rapid assessment in order hire a company with very good track record based on their experience working with other United Nations agencies, reputable international organizations, and multilateral development agencies after discussion with the PIU and MOH.

The project has been rated category B of Operational Policy 4:01 (Environmental Assessment). The appraisal under category B of Operational Policy 4:01 (Environmental Assessment) entails that potential environmental and social impacts would have moderate significance in the environs, and there is need for environmental management plans to address the impacts. The impacts can be broadly categorised into two main groups: (1) impacts arising during the construction phase and (2) impacts arising during the operational phase. The main sources of impacts during the construction phase would be from proposed expansion, minor civil works, rehabilitation works of the facilities and new construction activities. During the construction phase, construction workers could be exposed to occupational health and safety risks including fall from height, exposure to hazardous chemicals, accidents, hearing loss, sexually transmitted diseases (STDs) and other risks normally associated with construction activities. For the operational phase, the main source of impacts would be from the generation of healthcare wastes as a result of increase in health services and supplies.

Potential environmental impacts include: clearance of trees and grass on sites, dust emissions, noise nuisance, and clearance of some trees on sites, increase in discharge of surface runoff and soil erosion, and construction wastes disposal issues. Some social impacts will include disruption of healthcare services; safety of workers and access of patients and community to services etc.

The use of asbestos / slate as a building material, primarily in roofing or fencing or auxiliary buildings is common in older buildings and facilities. The handling and disposal of asbestos during the dismantling and refurbishment could expose workers, facility staff and neighbouring population to potential health hazards. Annex 2 provides well-defined mitigation measures which need to be undertaken during project implementation. Generic potential impacts are detailed in table 1 below and a Matrix of Mitigation measures for potential environmental impacts is attached as Annex 2.

Table 1 Potential Environmental and Social Impacts

ENVIRONMENTAL IMPACTS	
Planning Phase	
Physical Restrictions on building space.	The size of the health care facilities premises are either too small, with little room to expand outwards or on steep slopes with high erosion potentials.
Construction Phase	
Flora and Fauna	The rehabilitation, refurbishment and upgrading of existing healthcare facilities could result in some clearing of vegetation that could result in loss of tree/plant cover . This is expected to be minor as the proposed construction sites are mostly in built environment and areas that are already disturbed.
Soil and Land Pollution	Earth-moving equipment such as excavators will be used in excavation work. This could potentially/temporarily decrease the drainage of the area resulting in water logging.
	The risk of accidental discharge of hazardous products, leakage of hydrocarbons, oils or grease from construction machinery also constitute

	potential sources of soils and water pollution.
Vehicular Traffic	Construction works will result in a higher volume of traffic around the healthcare facilities and within the neighbourhood. This could result in obstruction of normal traffic, disruption of access of the community and road safety around the construction site
Waste Management	Activities at construction sites will produce construction wastes such as excavated soils and cement bags, paint drums, brick and concrete rubble, metal, broken glass, timber waste and debris. Excavated wastes could obstruct the general public, the movement of the workers and vehicles as well as affect the aesthetics of the environment.
	Old buildings have asbestos and PCBs, which if dismantled or disposed haphazardly, can result in serious pollution and health impacts
Ambient air quality	Air Quality will be impacted by emissions from vehicles, earthmoving equipment and released particulate matters. Demolition to modify the built environment will lead to considerable levels of cement dust which can affect workers and patients. Deteriorated indoor air quality will be of critical effect to especially asthmatic construction workers, patients and health workers, with either minor or severe health impact depending on level and duration of exposure.
Water pollution	Wastewater discharges from construction activities or onsite sewage system and rainwater run-off can run into surface waters will impact water quality by causing changes to its physical, chemical and biological properties.
Decommissioning of end-of-life solar PVs and batteries	Solar PVs and batteries contain hazardous chemicals that can be detrimental to the environment and human health if not managed properly.
SOCIAL AND HEALTH IMPACTS	
Planning Phase	
Disruption of Services	Healthcare services can get disrupted, and there is need for clear agreement on when and how the promised extension and refurbishments will be undertaken.
Construction Phase	
Disruption of Utilities Service	The excavation and civil works may cause temporary disruptions of utility services such as electricity communication and water. This could impact the provision of services and also the neighbourhood communities
Temporary disruption of healthcare services	Since facilities under renovation will not be closed, they will experience shortages of working space. Thus 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
Occupational Safety and Health Risks (including those associated with the use solar panels)	The safety of the local population may be at risk during construction activities. The movement of trucks to and from the site, the operation of various equipment and machinery and the actual construction activities will expose the workers to work-related accidents and injuries. Pollutants such as dust and noise could also have negative implications for the health of workers and near-by communities. The risk of fire exists during operational phase of solar PVs and this would require fire equipment and fire safety plans to be in place at all facilities,
Impacts of	Refurbishment work undertaken in the same buildings having patients has

construction activities on patients, healthcare staff and other stakeholders.	potential to cause injuries to patients or health workers. At all sites, renovation works will have the following potential hazards to staff and patients:
	□□Exposure to asbestos containing materials. (Old Buildings with asbestos roofs).
	□□Falling from tripping on building materials.
	□□Noise and vibrations during demolition
	□□Injury from falling or flying debris when demolishing walls
	□□Cracking of existing structures from vibrations
	□□Spillages and dust during transportation of materials
Noise	Noise and vibration caused by machines, site vehicles, pneumatic drills etc during construction activities can be a nuisance to patients and the community.
Traffic	Communities around the rehabilitation sites will experience heavier human and vehicular traffic. Construction related activities will be a nuisance to road users e.g. storage of construction stones by the roadside.
Installation of incinerators	Location and types and technical specifications of incinerators are critical aspects which can have negative environmental implications if not well managed. UNOPS is responsible for this aspect; UNOPS also has Manual and Sustainability Policy for infrastructure and technology which needs to be utilized. All related actions need to be consulted with stakeholders and documented
Inflow of construction workers	While most workers may originate from the local community where they have families, there might be others from distant places and working away from their families. Management of security, water and sanitation and waste will be the responsibility of the contractor
Poor Stakeholder Participation	Despite various efforts (e.g. newspaper notices, bulletins at the potential sites, announcement at various local meetings) to reach out to people affected by the project, there has been relatively low participation of communities, staff members and other stakeholders during project planning and designing.
Operation Phase	
Improved medical services at healthcare facilities	The project will positively impact on the health of the Swazis through easing access to quality medical care currently non-existent at these facilities. Renovation of facilities and installation of medical equipment will enable currently ineffective healthcare facilities to provide new or improved services to patients such as maternity.
Employment opportunities	Equipping healthcare facilities with modern equipment, enabling provision of new healthcare services and resultant increase in visiting patients may create additional long-term technical and non-technical job opportunities for medical professionals, janitors, security guards, etc.
Air pollution from onsite incinerators	Incineration of unsegregated health care waste result into localized pollution of air with pollutants such as respirable ash, furans and dioxins. Dioxins are known to promote cancers in humans. Downwash of incinerator emissions has potential to degrade indoor air quality of healthcare buildings or those of nearby offsite buildings.
Community health risk due to	Improper infectious waste disposal can cause public health risks due to environmental pollution: impaired air quality, wastewater/sewage handling,

improper waste management	storm water contamination of water courses or when adults and children rummage through raw waste stockpiles.
Occupational health and safety risks	Medical facilities are a potential source of infectious waste in gaseous, liquid or solid forms. These could pose unsafe conditions for healthcare staff. Of particular concern are janitors handling infectious waste (including sharps) without adequate protective gear, storage of sharps in containers that are not puncture-proof and management of radioactive waste at healthcare facilities where x-ray equipment will be installed. While some OHS risks will be borne by new equipment or services introduced after renovation or upgrade of facilities, most other effects are existing (hence cumulative) and would only be exacerbated by increased scale of healthcare services.
Improved aesthetics and life of healthcare facilities	Renovation will allow better healthcare services to be provided to communities

3. OBJECTIVE OF ENVIRONMENT AND SOCIAL MANAGEMENT FRAMEWORK

The project has developed an Environment and Social Management Framework which provides overall guidance on environmental screening and management for various sub-projects. The ESMF contains useful information on the procedures for environmental and social screening for sub-projects, potential environmental and social impacts; measures for addressing the negative impacts, recommended environmental and social rules for contractors. In this addition to this umbrella ESMF, the construction contractors will be required to develop detail and site-specific ESMPs to manage the potential impacts of their works.

The aim of the ESMF is to establish procedures for initial screening of the negative impacts which would require attention, prior to site-specific project implementation. Key specific objectives for the assessment are:

i. To assess the main potential environmental and social impacts of the planned and future project activities.
ii. To recommend environmental and social screening process for project sites and sub-project activities.
iii. To review environmental policies of Government for project implementation and relevant the World Bank Operational Policies to be triggered by the project.
iv. To develop an environmental management plan for addressing negative impacts during sub-project implementation.
v. To recommend appropriate further environmental work, including preparation of the site-specific ESIAs/ESMPs for sub-projects.
vi. To recommend appropriate capacity building for environmental planning and monitoring in the project activities.

Environmental and Social Screening will be undertaken for each of the proposed sub-projects in order to ascertain specific environmental and social impacts. Environmental and social management plans have to be drawn and recommendations integrated in construction contracts before bidding process.

A comprehensive national medical waste management plan has been developed, which addresses the requirements for handling medical waste from the treatment of the EVD. This ESMF therefore focuses on the other aspects of the project which have environmental impacts, namely the construction and civil works component.

4. LEGAL FRAMEWORK

The following legislations are available to support environmental and waste management and sanitation in Liberia:

i. The **Environmental Protection Act:** The act brought about the establishment of the National Environmental Protection Agency (EPA) which is responsible to ensure compliance to the provision of the act among different actors whose activities may pose serious negative environmental impacts.

The EPA is mandated by law to issue environmental Impact Assessment License to entities whose project meet requirements set in the Act. Such projects including civil engineering projects must have a clear Environmental Mitigation and Monitoring Plans. The National Environmental Protection Board (NEPB), which comprises of line ministries, supervises the activities of EPA. Among the main objectives of the Board is to ensure that an EIA is conducted for all projects including civil engineering projects proposed to be implemented. The NEPB is further empowered to ensure the issuance of environmental permits to projects implementation who's EIAs has been conducted and for the mitigation and management plan to be implemented alongside the project implementation phase. The Board is also required to prescribe environmental regulations and standards relating to water and air quality, pollution control, hazardous waste, and the monitoring of environmental issues in Liberia.

ii. The Environmental Protection and Management Law (EPML): The Act enables the Environment Protection Agency to protect the environment through the implementation of the Law. It arranges the rules, regulations, and procedures for the conduct of EIA. It establishes regulations for environmental quality standards, pollution control and licensing, among others.

The National Environmental Policy Act: The Act defines policies, goals, objectives, and principles of sustainable development and improvement of the physical environment, quality of life of the people and ensures coordination between economic development and growth with sustainable management of natural resources.

iii. **Liberia Decentralization Policy 2009:** Calls for the decentralization of the governance structure at county level. This policy emphasizes phasing out of centralized functions to the local government with county superintendents playing leading role in administering government functionaries at the county level

iv. **Public Health Law 1976 mandates the Ministry of Health to ensure** environmental sanitation in communities as well as in private and public places. The Law recognizes the importance of issuance sanitary permits to institutions for the operation public places including institution of public health importance.

v. **Integrated Water Resources Management Policy** (IWRMP) and Integrated National Waste Management Strategic Plan (INWMSP) (2011) serve as a common guiding reference for the implementation of the "Libreville Declaration on health and environment". Among other issues, the Declaration emphasizes the implementation of 11 priority interventions which include strengthening the waste management system as a strategy for efficiency and effectiveness in the provision of quality services for improved health outcomes.

vi. **The Persons with Disability Act**, 2011 establishes the National Commission for Persons with Disability, to prohibit discrimination against persons with disability, achieve equalization of opportunities for persons with disability and to provide for other related matters.

vii. **Freedom of Information Act**, 2013 provided for the disclosure of information held by public authorities or by persons providing services for them and to provide for other related matters.

4.1 Compliance with World Bank safeguards policies

The Project will follow the General Environmental, Health, and Safety (EHS) Guidelines of the World Bank Group[5] that contain information on cross-cutting environmental, health and safety issues. Proposed civil works for construction of new facilities and rehabilitation of facilities have potential for some negative impacts. The project has been rated under category B of Operational Policy 4:01 (Environmental Assessment), which is triggered to ensure that appropriate mitigation measures are put in place during expansions and rehabilitation works at the healthcare facilities. All of the identified negative impacts can be reduced or in some cases avoided, with timely implementation of the mitigation measures through the following system:

i. Environmental and social screening of sub-projects using a screening form attached as annex 3. The screening process will be done to appraise environmental and social risks and identify potential mitigation measures in advance.
ii. Preparation of Environmental and Social Management Plan (ESMP) for individual sub-projects to guide the implementation of mitigation measures.

This ESMF follows the Environment and Social Screening and Assessment Framework (ESSAF) will be prepared during project preparation.

The Policies on Natural Habitats (OP 4.04) Pest Management (OP4.09) and Forests (OP4.36) are not triggered as the Project activities will not involve conversion or degradation of critical or sensitive natural habitats and forests and also is not expected to involve the use of pesticides. The Policies on Indigenous Peoples (OP 4.10) and Involuntary Resettlement (OP4.12) are also not triggered as the project does not involve any involuntary land acquisition.

[5] available at: http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/our+approach/risk+management/ehsguidelines

5. ENVIRONMENTAL AND SOCIAL SCREENING PROCESS

Environmental and Social Screening of all sub-projects will be undertaken during planning and design stage, before commencement of civil works on the site. Environmental and social management plans will be prepared to identify, assess and mitigate, as appropriate all potential negative impacts.

Step 1: Application of the Screening processes

The PIU with the assistance of a consultant team (where required), will determine appropriate instruments for mitigating environmental and social safeguards impacts. This will allow the PIU to:

a) Determine the level of environmental work required (i.e. whether an ESMP is required; whether the application of simple mitigation measures will suffice; or whether no additional environmental work is required);

b) Determine and incorporate appropriate mitigation measures for addressing adverse impacts

The PIU will prepare a Safeguard Screening Summary which includes:

- a list of micro-projects and sub-projects that are expected to have environmental and social safeguards impacts;
- the extent of the expected impacts;
- the instruments used to address the expected impacts; and
- time-line to prepare the instruments.

The Safeguard Screening Summary, when completed, will provide information on the assignment of the appropriate environmental and social category to a particular activity for construction of new facilities or rehabilitation of existing structures.

The PIU, with the assistance of a consultant team (where required), will determine and prepare appropriate instruments for mitigating environmental and social safeguards impacts identified in the screening process. During the preparation of sub-projects, the PIU will ensure that technical design can avoid or minimize environmental and social impacts, avoiding land acquisition. A Matrix of Mitigation measures for potential environmental impacts is attached as Annex 1

The PIU will carry out the initial screening in the field, through the use of the Environmental and Social Screening Form – Part 1 of the Environment Management Plan – Checklist (Annex 2). The PIU will retain a copy of the Safeguards Screening Summary for possible review by the Implementing Agency and the World Bank. The review, which may be conducted on sample basis, will verify the proper application of the screening process, including the scoping of potential impacts and the choice and application of instruments.

Step 2: Preparation of site-specific safeguards instruments

The environmental and social impact assessment process will identify and assess the potential environmental and social impacts of the proposed construction activities, evaluate alternatives, as well as design and implement appropriate mitigation, management and monitoring measures. These measures will be captured in the Environmental and social Management Plan (ESMP) which will be prepared.

This ESMF includes an ESMP-checklist which can be used as the Environmental and Social Management Plan (ESMP) for individual sub-activities once identified during the scoping identification phase. (Annexes 2, 3 and 4) For each sub-activity in which the specific buildings/sites for rehabilitation, and/or demolition and complete reconstruction is known, the EMP-checklist is completed. The checklist has three parts:

1. Part 1 includes the descriptive part that describes the project specifics in terms of the physical location, institutional arrangements, and applicable legislative aspects, the project description, inclusive of the need for a capacity building program and description of the public consultation process. This section could be up to two pages long. Attachments for additional information can be included. (This is the ESSF, Part 1 as detailed in Annex 2)
2. Part 2 includes the environmental and social screening of potential issues and impacts, in a simple Yes/No format followed by mitigation measures for any given activity. Currently, the list provides examples of potential issues and impacts. This list can be expanded to specific site issues and /or impacts; and good practices and mitigation measures. (Annex 3)
3. Part 3 will include the monitoring plan for activities during project construction and implementation. It retains the same format required for current ESMPs. **It is the intent of this checklist that Part 2 and Part 3 be included as bidding documents for contractors.** (Annex 4)

The ESMP-checklist which to be filled out for each sub-project, will be used to determine the type and scope of the environmental and social safeguards impacts. The practical application of the EMP-checklist would include filling in of Part 1 to obtain and document all relevant site characteristics. In Part 2 the type of foreseen works, would be checked, and the completed tabular EMP is additionally attached as integral part to the works contract and, analogous to all technical and commercial terms, that is signed by the contract parties. Part 3 of the ESMP-checklist, the monitoring plan, is designated for the Contractor responsibility, to be supervised by the PIU.

The PIU will prepare the EMPs in consultation with affected peoples and with relevant NGOs, as necessary. The EMP will be submitted to the Implementing Agency, for review, prior to the submission to the World Bank for approval. Documentation and clear records of such site-specific consultations must be maintained at the PIU.

In case of any change in scale of scope of construction or in case the Government decides to construct new buildings, the due-diligence measures will be enhanced, in consultation with the World Bank, and no such physical investments will be undertaken without Bank approval and clearance.

Step 2: Monitoring of safeguards instruments

The PIU will supervise and monitor the overall safeguards implementation process and prepare a progress report on the application of safeguards policies during the planning, design, and construction phases of the Project. The PIU will also develop the reporting requirements and procedures to ensure compliance of the contractors; conduct public consultation and public

awareness programs; and carry out periodic training for field engineers and contractors as appropriate. Environmental consultants will be hired by the PIU to support them in this activity.

Appropriate mitigation measures will be included in the bidding documents and contract documents to be prepared by the PIU. Compliance by the contractors will be monitored in the field by the project field observers, working under close supervision. The performance of the contractors will be documented and recorded for possible later review. Sample Environmental Safeguards procedures for inclusion in the technical specifications of construction contracts are provided in Annex 6.

6. INSTITUTIONAL ARRANGEMENTS AND GOVERNANCE STRUCTURE –

Governance Structure

In order to ensure effective implementation of the World Bank supported projects, a clearly defined but proposed governance structures includes three separate groups consisting of the Executive, the senior users and the senior suppliers. There are also two member groups which include Technical working group for project component and project management.

Steering Committee Executive

The steering committee executive officials including the Ministers of Health who have oversight responsibilities in the implementation of the Bank supported portfolio. It receives support from the other groups but ensures the smooth implementation of the project to achieving the project agreed objectives.

Steering Committee of Senior Users

This committee comprises of representative of division and or departments from the Ministry of Health (example: Human Resource Division, Infrastructure etc.). This committee ensures that the usability of the solutions for the Bank supported portfolio.

Steering Committee of Suppliers

This committee ensures the feasibility of the project's solutions. It comprises of representatives from the World Bank, the World Health Organization (WHO), and the UNOPS. In this arrangement, WHO serves as partner in the project implementation, World Bank as project donor and UNOPS as provider of project assurance.

FIGURE 1: Governance Structure for the Bank supported portfolio

Technical working group

This working group is made up of representatives from institutions with expertise in technical areas relevant to the project. One key technical working group is the infrastructure working group which provides advice to the project steering committees on technical matters and support in infrastructure components of the Bank supported portfolio which contributes to project

objectives. The infrastructure working group comprises of the Ministry of Public Works, UNICEF, Ministry of Health, UNOPS, Environmental Protection Agency (EPA).

Project Management Team

The project management team comprises of project implementation unit housed within the Ministry of Health. This team leads on the operational aspects of the project such as development of workplans, assessing overall implementation of the project including quality assurance and overall budgetary performance.
Responsibilities and Institutional roles in the implementation of the ESMF
The below table identifies the different roles and responsibilities for specific institutions in the implementation of the ESMF

Table 2 Institutional Roles in ESMF Implementation

Measures	Areas of Intervention	Implementation responsibility
Mitigation measures	This includes mitigation of negative impacts likely to result from project activities such as civil works (i.e construction and rehabilitation)	Division of Environmental and Occupational Health (DEOH) County Health Teams
Technical measures	Conduct of relevant activities including the development of health and safety plans, conduct of environmental impact studies including Environmental Impact Assessment (EIAs) and Health Impact Assessment (HIA) Conduct regular (quarterly) assessment on the implementation of the ESMF	Consultant and DEOH
Approval and environmental classification of sub projects	Review and approve the environmental classification of sub projects and issue EIA approval Monitor the national level implementation of Environmental Measures	Environmental Protection Agency (EPA)
Recruitment of specialist services	Recruit the Environmental and Social Managament Specialist to lead on ESMF implementation as well as the development of environmental and social guidelines	Project Implementation Unit (PIU)
Monitoring and quality control	Reviews technical specifications of civil works projects Assesses EIAs and EMPs Provides clearance on infrastructure component of the project	Ministry of Public Works Environmental Protection Agency Ministry of Health (Infrastructure Division and DEOH)

The Ministry of Health will lead the implementation of Component 1 with technical support from WHO. The Ministry of Health will also contract out part of the work to technical agencies (e.g., WHO, UNICEF, UNOPS, UNFPA) to ensure the rapid delivery of services.

The Ministry of Health has been engaged in various Bank investments projects and as such, it has project coordinating units which are very familiar with Bank Safeguard policies and procedures.

7. ENVIRONMENTAL AND SOCIAL MONITORING

7.1 Institutional arrangements

In order to ensure quality delivery of the project activities, project monitoring will be conducted by different institutions and at different levels.
National Level: The infrastructure working group mentioned above will serve as the technical review arm for this project and will comprise of the Ministry of Health (Infrastructure Division and the Environmental Health Division) who will lead the process of ensuring environmental monitoring for sub project activities. The Environmental Protection Agency (EPA) will ensure that sub project activities requiring permits complies with existing laws.
A sub national level, the County Health Teams will lead the implementation of environmental mitigation activities and ensure that all sub project activities comply with existing legislation.

7.2 Implementing schedules

Timing, frequency and duration of mitigation measures with links to the overall implementation schedule of the project should be specified.
Table: 3 presents the timetable for the implementation and monitoring of the Bank supported portfolio Environmental and Social Management Framework (ESMF) activities:

Table 3 ESMF Implementation Schedule

Measures	Proposed actions	Timeline in project cycle
Institutional measures	Recruit Environmental and Social Management specialist	Before sub project implementation
Technical Measures	Application of screening checklist for certain aspects of the EERP project	Before implementation of specific project activities
Mitigating measures	Review list of mitigating measures	During sub project implementation
Awareness creation on project safeguards	County level consultation and disclosure sessions	Before sub project implementation
Follow up action	Project ESMF monitoring and Evaluation	During project implementation and at the end of project
Independent Audit		One year before end of project

7.3 Monitoring and Reporting procedures

The project will ensure continuous monitoring and supervision, focusing primarily on monthly county level visits and a mid-term and end of project evaluation. The budgetary allocations in the budget will support local monitoring by the Environmental and Social Management consultant and monitors from the DEOH and the EPA to effect the wide scale monitoring of the ESMF.

7.4 Cost estimates for implementing the ESMF

In order to implement the ESMF, there is need for funding of the following activities clearly outlined in the below table:

Table 4 ESMF Implementation Cost

Measure and core activities	Partners involved	Unit cost (US$)	Total cost
Recruitment of safeguards specialist and monitoring of environmental measures for sub projects activities	Ministry of Health (Project Implementation Unit, Procurement Unit and Division of Environmental and Occupational Health	3,500.00	60,000.00
_In country disclosure and public consultation	Ministry of Health, County Health Teams, Environmental Protection Agency (EPA), Ministry of Internal Affairs		5,000.00
Independent audit of civil works will be conducted one year before project closure		10,000.00	10,000.00
Total cost			**75,000.00**

8. GRIEVANCE REDRESSAL MECHANISM

Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

In country, grievance procedures will be put in place to address any mistreatments/ mishandling between both health workers, and health workers and patients. In the case of patients, for example, the Community health leader – who sits on the Hospital Health Board and primary health facility and Community committees -will be the grievance focal point. Patients will be able to discuss grievances directly with the community health leader, or by writing these down,

and placing in a suggestion box. Health facilities will be required to ensure that grievance procedures are understood by, and understandable to illiterate populations.

All grievances will be discussed at monthly Hospital Board Meetings, health facility meetings, and CHW meetings, with mechanism to address grievances- in the case of deliberate wrongdoing- enforced. In addition to this, mechanisms to address grievances among health workers will also be developed (including redress mechanisms) and enforced by health facilities. Adherence to these grievance mechanisms will be monitored closely in the quality checklist for hospitals and primary health facilities.

9. CONSULTATIONS AND DISCLOSURE

This Grant is intended to supplement the support provided through EERP and Health System Strengthening Project (HSSP) and the HSSP Additional Financing. Public consultation had been held under these projects, and the safeguards instruments disclosed as required. The Updated Waste Management Plan and the revised EERP ESMF are the safeguards instruments for this project. These instruments will be disclosed in Country and on Infoshop once they are cleared by the Bank. All comments provided during these consultations will be recorded, and included in the final ESSAF and any subsequent safeguard instruments which will be developed as required.

ANNEX 1: MATRIX OF MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
0. General Conditions	Land	1. The local construction and environment inspectorates and communities have been notified of upcoming activities 2. The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works) 3. All legally required permits have been acquired for construction and/or rehabilitation 4. The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. 5. All recognized natural habitats, wetlands and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities. 6. An inventory shall be made of large trees in the vicinity of the construction activity, large trees shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided; Tree replanting should be undertaken to replace those which need to be cut 7. There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas. 8. Adjacent wetlands and streams shall be protected from construction site run-off with appropriate erosion and sediment control feature to include by not limited to hay bales and silt fences 9. If there are any religious or cultural artifacts on site, these must be identified in site-specific EMP, and recommended actions must be agreed in consultation with local community.
Building-related Specifications		1. Building designs must be in compliance with national standards for energy efficiency, water and sewerage and healthcare waste management 2. Facility design features must ensure adequate space and equipment for health service delivery 3. As far as possible, local material must be used to reduce the energy consumption in transport 4. Asbestos must not be used; Low-cost lead-based paints should be avoided and building materials should be fire resistant. 5. Proper ventilation and natural lighting should be ensured in the building design 6. In case archaeological or religious site exists in the vicinity, the site-specific EMP must include all due diligence

		measures to avoid any harm or impact on those structures. 7. The drainage pattern should be studied to determine whether the site would be subject to flooding and stagnant water. The building designs must include systems for drainage of excess water 8. Alternative sources of power for lighting and heating options must be assessed for each site and the assessment and recommendations must be clearly documented in the site-specific EMP.
A. General Rehabilitation and /or Construction Activities	Air Quality	1. The contractor shall ensure that construction materials such as sand, quarry stone, soils or any other construction materials are acquired from approved suppliers 2. Demolition debris shall be kept in controlled area and sprayed with water mist to reduce debris dust 3. During pneumatic drilling/wall destruction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site 4. The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust. **5. Dust and noise barriers are specially required where construction faces hospital wards and patient movement** 6. There will be no open burning of construction / waste material at the site 7. There will be no excessive idling of construction vehicles at sites
	Noise	1. Construction noise will be limited to restricted times agreed to in the permit 2. During operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed as far away from residential areas as possible
	Waste management	(a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. (b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. (c) Construction waste will be collected and disposed properly by licensed collectors (d) The records of waste disposal will be maintained as proof for proper management as designed. (e) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)
	Water Supply and Quality	1. If piped water can be accessed, review possibility of linking the facility to the water source. In case of extending pipeline, environmental due diligence must be conducted with regard to the infrastructure required, materials used, layout of pipes within the facility etc. These must be clearly

		assessed and recorded in the site-specific EMP. 2. If there is no piped water, possibility of having a shallow-well/tube-well within the facility premises. In case of this option, environmental due diligence will involve assessment of the quality of groundwater and type of aquifers, availability of materials and equipment required to install the pumps etc. These must be clearly assessed and recorded in the site-specific EMP. 3. All laid pipes must be preferably copper, cast-iron sewer pipes to avoid Polyvinyl chloride (PVC) venting. Open pipes and insulation should be of non-toxic materials. 4. The quality of the water must be assessed for usage (drinking, sanitation etc). Specific plans to address any particular issues of water quality, such as arsenic and fluoride contamination, should be made if required. 5. Instructions must be included with regard to usage of the water, especially how to make it potable/drinkable. 6. Adequate provision for storage of sufficient volumes of water should be provided to ensure continuous availability of water within the building
	Sewerage and Sanitation	1. The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities 2. Assessment will be made of conditions of sewerage facility and where there is no system in place, options for constructing pit latrines must be assessed. Pit latrines must be installed downhill from water sources/wells and should be at least 2 meters above the water-table and about 6m away from the building. The design of the pit must follow international standards (WHO, WSP etc). A users and management manual must be prepared and disseminated to the users and healthcare staff. The assessment must be clearly documented in the site-specific EMP. 3. In case of infectious wastewater, the EMP must document what systems are being put in place for treatment and discharging 4. Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute natural surface water bodies.
		1. The contractor shall provide all necessary protective clothing for workers exposed to hazardous and dangers work activities. 2. Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) 3. Appropriate signposting of the sites will inform workers of key rules and regulations to follow 4. All workers shall be regularly sensitized on safety

		regulations on the site. 5. The construction shall maintain on the site first aid kits for male and female workers. 6. Workers shall be provided with clean potable water on the site and safety cooking places, wash rooms and ventilated pit latrines.
E. Toxic Materials	Asbestos management	1. If asbestos is located on the project site, it shall be marked clearly as hazardous material; it is to be stored temporarily, it securely contained and sealed to minimize exposure and marked appropriately 2. The removed asbestos will not be reused and should be secured so it cannot be pilfered by (worse yet, sold to) local people seeking building material.The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust 3. Workers dealing with asbestos removal must be provided with protective equipment as per OSHA guidelines (glove bags, protective clothing and approved respirators); Asbestos will be handled and disposed by trained workers. 4. All asbestos containing materials (ACM) ACM should be transported in leak-tight containers to a secure landfill in a manner that precludes air and water contamination that could result from ruptured containers. 5. In case where there is no secured landfill, the preferred alternative solution is secure burial. 6. The ACM could be buried under the foundations of the new construction but precautions must be taken that it is not broken or crushed 7. All measures will be documented in site-specific EMPs
	Toxic / hazardous waste management including end-of-life Solar PVs and batteries	(a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information (b) The containers of hazardous substances shall be placed in an leak-proof container to prevent spillage and leaching (c) The wastes shall be transported by specially licensed carriers and disposed in a licensed facility. (d) Paints with toxic ingredients or solvents or lead-based paints will not be used (e) End-of-life solar PVs and batteries will be treated as hazardous wastes. The materials will need to be handled by EPA certified wastes service providers. Alternatively O&M should be included in the contract with equipment distributors and this should include disposal of old panels and batteries. (f) To mitigate the risks of fire hazard, fire fighting equipment and fire safety plans will be provided for all facilitie and facility users trained in safety.
F. Installati	***Addressed in UNOPS***	UNOPS will determine : Technical specifications of incinerators to be installed based on

on of Incinerators	***Manuals and Policies***	volumes and types of waste Location for installation of incinerator Consultation and documentation of EMP prior to installation
G. Disposal of medical waste	***Addressed in Medical Waste management Plan***	(a) In compliance with national regulations the contractor will insure that newly constructed and/or rehabilitated health care facilities include sufficient infrastructure for medical waste handling and disposal; this includes and not limited to: Special facilities for segregated healthcare waste (including soiled instruments "sharps", and human tissue or fluids) from other waste disposal; and Appropriate storage facilities for medical waste are in place; and If the activity includes facility-based treatment, appropriate disposal options are in place and operational
H. Traffic and Pedestrian Safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	(b) In compliance with national regulations the contractor will insure that the construction site is properly secured and construction related traffic regulated. This includes but is not limited to Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public. Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public.

ANNEX 2: ENVIRONMENTAL AND SOCIAL SCREENING FORM (ESSF)

This Form is to be used by the PIU for screening sub-project proposals. One copy of this form and accompanying documentation will be kept in the PIU office, and one copy to be sent to the World Bank Task Team Leader.

PART 1: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE				
Project title				
Scope of project and activity				
Institutional arrangements (Name and contacts)	WB (Project Team Leader)	Project Management	Local Counterpart and/or Recipient	
Implementation arrangements (Name and contacts)	Safeguard Supervision	Local Counterpart Supervision	Local Inspectorate Supervision	Contactor
SITE DESCRIPTION				
Name of site				
Describe site location			Attachment 1: Site Map [ ]Y [ ] N	
Who owns the land?				
Description of geographic, physical, biological, geological, hydrographic and socio-economic context				
Locations and distance for material sourcing, especially aggregates, water, stones?				
LEGISLATION				
Identify national & local legislation & permits that apply to project activity				

PUBLIC CONSULTATION	
Identify when / where the public consultation process took place	
INSTITUTIONAL CAPACITY BUILDING	
Will there be any capacity building?	[ ] N or [ ]Y if Yes, Attachment 2 includes the capacity building program

ANNEX 3: ENVIRONMENTAL MANAGEMENT PLAN (EMP) CHECKLIST FOR EACH SUB-PROJECT

Prepared by: _____
Reviewed by:_____
Date:_____

PART 2: SUB- PROJECT SPECIFIC SCREENING AND MITIGATION MEASURES

No	*Issues*	Yes	No	Proposed Mitigation Measures
A.	**Zoning and Land Issues**			
i.	Will the sub-project affect land use zoning and planning or conflict with prevalent land use patterns?			
ii.	Will the sub-project involve significant land disturbance or site clearance?			
iii.	Will the sub-project land be subject to potential encroachment by urban or industrial use or located in an area intended for urban or industrial development?			
iv.	Is the sub-project located in an area susceptible to landslides or erosion?			
v.	Will the sub-project involve the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?			
vi.	Is the sub-project located on prime agricultural land?			
vii.	Does the sub-project have access to potable water?			
viii.	Is the sub-project located far (1-2 km) from accessible roads?			
ix.	Will the sub-project need to change the vegetation and /or cutting of trees on site			
x.	Is the sub-project located in an area with a wastewater network?			
xi.	Is the sub-project located in the urban plan of the city?			
xii.	Is the sub-project located in a polluted or contaminated area?			
xiii.	Is the sub-project located in an area with designated natural reserves or protected areas? [**Note: If YES, the sub-project cannot be financed]**			
xiv.	Will the sub-project involve the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?			
B	**Construction related Issue**			

No	*Issues*	Yes	No	Proposed Mitigation Measures
ii	Will the sub-project require the setting up of ancillary production facilities?			
iii	Will sub-project require sourcing of building and construction materials and equipment			
iiii.	Will the sub-project require construction workforce who will need to be provided accommodation or service amenities			
Iiv	Will the sub-project generate solid (construction, rubble, cement etc) and liquid waste (chemicals, oils, wastewater etc)			
Vv	Will the sub-project require raw materials or construction materials?			
vvi	Will the sub-project lead to an increase in suspended sediments in streams affected by road cut erosion, decline in water quality and increased sedimentation downstream?			
vvii	Will the sub-project involve the use of chemicals or solvents?			
Vviii	Will the sub-project lead to the creation of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors?			
iix	Will the sub-project increase the levels of air emissions during construction or equipment movement?			
Xx	Will the sub-project generate dust and noise during construction?			
xxi	Will the sub-project increase ambient noise levels?			
xxii	Will the sub-project involve the storage, handling or transport of hazardous substances?			
xxiii	Will the sub-project have an impact on on religious monuments, structures and/or cemeteries, archaeological or historical sites?			
xxiv	Will the sub-project lead to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles?			
xxv	Will the sub-project result in dismantling or removal of asbestos			
Xxvi	Will the sub-project involve demolition of existing structures?			
C	***Design Issues***			
ii	Does the sub-project need provision of water supply			
iii	Does the sub-project need provision of electricity			

No	*Issues*	Yes	No	Proposed Mitigation Measures
iiii.	Will the sub-project generate large amounts of residual wastes, construction material waste or cause soil erosion?			
iiv	Will the sub-project result in potential soil or water contamination (e.g., from oil, grease and fuel from equipment yards)?			
vv	Will the sub-project lead to an increase in suspended sediments in streams affected by road cut erosion, decline in water quality and increased sedimentation downstream?			
vvi	Will the sub-project involve the use of chemicals or solvents?			
vvii	Will the sub-project involve the storage, handling or transport of hazardous substances?			
vviii	Does the sub-project need provision of wastewater treatment			
iix	Is the facility installing an incinerator			If yes, attach separate UNOPS documentation
xx	Safety Issues			
xxi	Will the sub-project lead to inflow of labour and temporary construction camps?			
xxii	Is the -project or sub-project located in an area from which people have been displaced?			
xxiii	Is the sub-project located in an area where people will be temporarily relocated?			
xxiv	Is the sub-project located in a densely populated area?			
xxv	Does the sub-project require land acquisition? [**Note: If YES, the sub-project cannot be financed]**			
xxvi	Will the sub-project negatively impact livelihoods? [Note: Describe separately if YES]			
	ANNEX includes documentation of public consultation			
	ANNEX includes photographs of pre-during and post construction phases			

Signed by Environment Specialist: Name: _____
Title: _____
Date: _____

Signed by Project Manager: Name: _____
Title: _____ Date: _____

ANNEX 4: ENVIRONMENTAL MONITORING PLAN

PART 3: Monitoring Plan

Phase	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)
During activity preparation							
During activity implementation							
During activity supervision							
Operations of Incinerators							

ANNEX 5: LIST OF NEGATIVE PROJECT ATTRIBUTES

Interventions with any of the attributes listed below will be ineligible for support under the proposed emergency support

I. Sub-projects concerning significant conversion or degradation of critical natural habitats, including, but not limited to, any activity within:
Wildlife reserves
Ecologically-sensitive marine and terrestrial ecosystems
Parks or sanctuaries
Protected areas, natural habitat areas
Forests and forest reserves
Wetlands
National parks or game reserves
Any other environmentally sensitive areas
Any areas near disposal sites or requiring significant expansion into an existing disposal site.
Use of pesticides that fall in WHO classes IA, IB, or II.

II. Sub-projects requiring land acquisition or resulting in involuntary resettlement and/or permanent or temporary loss of access to assets or loss of assets for the project affected populations.

ANNEX 6: ENVIRONMENTAL GUIDELINES FOR CIVIL WORKS CONTRACTS

The contractors are required to use environmentally acceptable technical standards and procedures during the implementation of construction of works. All construction contracts will contain the following requirements:
Take precautions against negative influence on environment, any environmental damage or loss through prevention or suppression measures (where it is possible) instead of liquidation or mitigation of negative consequences.
Observe all national and local laws and rules on environmental protection. Identify officers responsible for the implementation of activities on environmental protection conforming to instructions and directions received from the construction and design or environmental protection agencies.
Store and dispose of construction waste consistent with national regulations and the sub-project (site-specific) EMP
Minimize dust emission to avoid or minimize negative consequences influencing air quality.
Provide pedestrian crossing and roads and access to the public places.
Provide markets with light and transient roundabout connections to assure safety and convenience.
Prevent or minimize vibration and noise from vehicles during explosive activities.
Minimize damages and assure vegetation recovery.
Protect surface and underground water from soil pollution. Assure water collection and distribution.

Safeguards Procedures for Inclusion in the Technical Specifications of Contracts
(for rehabilitation/repairs activities)

I. General

1. The Contractor and his employees shall adhere to the mitigation measures set down and take all other measures required by the Engineer to prevent harm, and to minimize the impact of his operations on the environment.
2. Remedial actions which cannot be effectively carried out during construction should be carried out on completion of each subproject and before issuance of the "Taking over certificate":
    i. these subproject locations should be landscaped and any necessary remedial works should be undertaken without delay, including grassing and reforestation;
    ii. water courses should be cleared of debris and drains and culverts checked for clear flow paths; and
    iii. borrow pits should be dressed as fish ponds, or drained and made safe, as agreed with the land owner.
3. The Contractor shall limit construction works to between 6 am and 7 pm if it is to be carried out in or near residential areas.
4. The Contractor shall avoid the use of heavy or noisy equipment in specified areas at night, or in sensitive areas such as near a hospital.
5. To prevent dust pollution during dry periods, the Contractor shall carry out regular watering of earth and gravel haul roads and shall cover material haulage trucks with tarpaulins to prevent spillage.

6. To avoid disease caused by inadequate provision of water and sanitation services, environmentally appropriate site selection led by application of the environmental and social screening form provided in this ESSAF, design and construction guidance, and a procedure for ensuring that this guidance is followed before construction is approved. Ensure engineering designs include adequate sanitary latrines and access to safe water.
7. To prevent unsustainable use of timber and wood-firing of bricks, the contractor should replace timber beams with concrete where structurally possible. In addition, the contractor should ensure fired bricks are not wood-fired. Where technically and economically feasible, substitute fired bricks with alternatives, such as sun-dried mud bricks, compressed earth bricks, or rammed earth construction.
8. The Contractor shall conduct appropriate disposal of waste materials and the protection of the workforce in the event of asbestos removal or that of other toxic materials.

Prohibitions

9. The following activities are prohibited on or near the project site:

Cutting of trees for any reason outside the approved construction area;
Hunting, fishing, wildlife capture, or plant collection;
Use of unapproved toxic materials, including lead-based paints, asbestos, etc.
Disturbance to anything with architectural or historical value;
Building of fires;
Use of firearms (except authorized security guards);

II. Transport

10. The Contractor shall use selected routes to the project site, as agreed with the Engineer, and appropriately sized vehicles suitable to the class of road, and shall restrict loads to prevent damage to roads and bridges used for transportation purposes. The Contractor shall be held responsible for any damage caused to the roads and bridges due to the transportation of excessive loads, and shall be required to repair such damage to the approval of the Engineer.
11. The Contractor shall not use any vehicles, either on or off road with grossly excessive, exhaust or noise emissions. In any built up areas, noise mufflers shall be installed and maintained in good condition on all motorized equipment under the control of the Contractor.
12. Adequate traffic control measures shall be maintained by the Contractor throughout the duration of the Contract and such measures shall be subject to prior approval of the Engineer.

III. Workforce

13. The Contractor should whenever possible locally recruit the majority of the workforce and shall provide appropriate training as necessary.
14. The Contractor shall install and maintain a temporary septic tank system for any residential labor camp and without causing pollution of nearby watercourses.
15. The Contractor shall establish a method and system for storing and disposing of all solid wastes generated by the labor camp and/or base camp.
16. The Contractor shall not allow the use of fuel wood for cooking or heating in any labor camp or base camp and provide alternate facilities using other fuels.

17. The Contractor shall ensure that site offices, depots, asphalt plants and workshops are located in appropriate areas as approved by the Engineer and not within 500 meters of existing residential settlements and not within 1,000 meters for asphalt plants.
18. The Contractor shall ensure that site offices, depots and particularly storage areas for diesel fuel and bitumen and asphalt plants are not located within 500 meters of watercourses, and are operated so that no pollutants enter watercourses, either overland or through groundwater seepage, especially during periods of rain. This will require lubricants to be recycled and a ditch to be constructed around the area with an approved settling pond/oil trap at the outlet.
19. The Contractor shall not use fuel wood as a means of heating during the processing or preparation of any materials forming part of the Works.
20. The Contractor shall conduct safety training for construction workers prior to beginning work. Material Safety Data Sheets should be posted for each chemical present on the worksite.
21. The Contractor shall provide personal protective equipment (PPE) and clothing (goggles, gloves, respirators, dust masks, hard hats, steel-toed and –shanked boots, etc.) for construction and pesticide handling work. Use of PPE should be enforced.

IV. Quarries and Borrow Pits

22. Operation of a new borrow area, on land, in a river, or in an existing area, shall be subject to prior approval of the Engineer, and the operation shall cease if so instructed by the Engineer. Borrow pits shall be prohibited where they might interfere with the natural or designed drainage patterns. River locations shall be prohibited if they might undermine or damage the river banks, or carry too much fine material downstream.
23. The Contractor shall ensure that all borrow pits used are left in a trim and tidy condition with stable side slopes, and are drained ensuring that no stagnant water bodies are created which could breed mosquitoes.
24. Rock or gravel taken from a river shall be far enough removed to limit the depth of material removed to one-tenth of the width of the river at any one location, and not to disrupt the river flow, or damage or undermine the river banks.

25. The location of crushing plants shall be subject to the approval of the Engineer, and not be close to environmentally sensitive areas or to existing residential settlements, and shall be operated with approved fitted dust control devices.

V. Earthworks

26. Earthworks shall be properly controlled, especially during the rainy season.
27. The Contractor shall maintain stable cut and fill slopes at all times and cause the least possible disturbance to areas outside the prescribed limits of the work.
28. The Contractor shall complete cut and fill operations to final cross-sections at any one location as soon as possible and preferably in one continuous operation to avoid partially completed earthworks, especially during the rainy season.
29. In order to protect any cut or fill slopes from erosion, in accordance with the drawings, cut off drains and toe-drains shall be provided at the top and bottom of slopes and be planted with grass or other plant cover. Cut off drains should be provided above high cuts to minimize water runoff and slope erosion.
30. Any excavated cut or unsuitable material shall be disposed of in designated tipping areas as agreed to by the Engineer.

31. Tips should not be located where they can cause future slides, interfere with agricultural land or any other properties, or cause soil from the dump to be washed into any watercourse. Drains may need to be dug within and around the tips, as directed by the Engineer.

VI. Historical and Archeological Sites

32. If the Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:

i. Stop the construction activities in the area of the chance find.

ii. Delineate the discovered site or area.iii.Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities take over.

iv. Notify the supervisory Engineer who in turn will notify the responsible local authorities and the Ministry of Culture, Youth and Sports immediately (less than 24 hours).

v. Contact the responsible local authorities and the Ministry of Information, Culture and Communication who would be in charge of protecting and preserving the site before deciding on the proper procedures to be carried out. This would require a preliminary evaluation of the findings to be performed by the archeologists of the relevant Ministry of Information, Culture and Communication (within 72 hours). The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage, including the aesthetic, historic, scientific or research, social and economic values.

vi. Ensure that decisions on how to handle the finding be taken by the responsible authorities and the Ministry of Information, Culture and Communication. This could include changes in the layout (such as when the finding is an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage.

vii. Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Ministry of Information, Culture and Communication; and

viii. Construction work will resume only after authorization is given by the responsible local authorities and the Ministry of Information, Culture and Communication concerning the safeguard of the heritage.

VII. Disposal of Construction and Vehicle Waste

33. Debris generated due to the dismantling of the existing structures shall be suitably reused, to the extent feasible, in the proposed construction (e.g. as fill materials for embankments). The disposal of remaining debris shall be carried out only at sites identified and approved by the project engineer. The contractor should ensure that these sites: (i) are not located within designated forest areas; (ii) do not impact natural drainage courses; and (iii) do not impact endangered/rare flora. Under no circumstances shall the contractor dispose of any material in environmentally sensitive areas.

34. In the event any debris or silt from the sites is deposited on adjacent land, the Contractor shall immediately remove such, debris or silt and restore the affected area to its original state to the satisfaction of the Supervisor/Engineer.

35. Bentonite slurry or similar debris generated from pile driving or other construction activities shall be disposed of to avoid overflow into the surface water bodies or form mud puddles in the area.
36. All arrangements for transportation during construction including provision, maintenance, dismantling and clearing debris, where necessary, will be considered incidental to the work and should be planned and implemented by the contractor as approved and directed by the Engineer.
37. Vehicle/machinery and equipment operations, maintenance and refueling shall be carried out to avoid spillage of fuels and lubricants and ground contamination. An oil interceptor will be provided for wash down and refueling areas. Fuel storage shall be located in proper bounded areas.
38. All spills and collected petroleum products shall be disposed of in accordance with standard environmental procedures/guidelines. Fuel storage and refilling areas shall be located at least 300m from all cross drainage structures and important water bodies or as directed by the Engineer.

VII. Installation of Incinerators:

Follow UNOPS guidelines and policies and maintain documentation related to:

- procedures followed for optimal choice of capacity, location, installation and commissioning
- environmental impact assessment (if any),
- consultation regarding location and capacity and operations. This should be well documented and retained with the site-specific detailed EIA and EMP

VII. Installation of Solar Panels

The following good practices are recommended for the installation and operation of solar panels:

- Installation should only be on existing buildings.
- Works should follow the Bank's OHS guidelines
- O&M should be included in the contract with equipment distributors
- End-of-life panels and batteries should be treated as hazardous wastes and disposed of through EPA certified waste service providers
- Fire fighting equipment and fire safety plan should be in place at all facilities. Facility users should be trained on fire prevention and be aware of fire safety plan.