SFG1347 v1

REPUBLIC OF SIERRA LEONE

EBOLA EMERGENCY RESPONSE PROJECT

(P152359)

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

April 2015

1. BACKGROUND

Sierra Leone is located on the West African coast, bounded on the west by the Atlantic Ocean, on the North and East by Guinea and on the Southeast by Liberia. This tropical country averages an annual rainfall of 3,150 mm and it is one of the wettest places along the West African coast, and prone to flooding. The vegetation ranges from mangroves along the coast to forest covered hills and savannah further inland, which can harbor disease vectors like malaria. Administratively, Sierra Leone is divided into the Western Area and three provinces – Eastern, Northern and Southern provinces. About two thirds of the population lives in rural areas while a third lives in urban areas, mainly in the capital city of Freetown. The population of Sierra Leone is estimated at 6.1million, with a growth rate of 2% in 2013[1]. It ranks as one of the least developed countries in the world, based on its 2013 Human Development Report ranking 177 out of 187 countries. The country is extremely resource-poor, with a GDP per capita (PPP) of US$ 660 in 2013[2], with agriculture accounting for 59% of the GDP. Life expectancy at birth is estimated at 46 years, and is associated with high child and maternal mortality rates, as well as a heavy burden of communicable and non-communicable diseases in the country. The underlying factors are pervasive poverty; high level of illiteracy, especially among females; limited access to safe drinking water and adequate sanitation; poor feeding and hygienic practices; overcrowded housing; and limited access to high quality healthcare services.

Since the end of the civil conflict in 2002 there has been reasonable progress, albeit under challenging economic and social conditions. The economy continues to record impressive growth rates; domestic revenue is gradually improving despite the historically low revenue effort; the deficit has been falling as a share of GDP; inflationary pressures are trending down, following a surge that had been reinforced by the global crises. The external position is also (marginally) improving following a surge in export of minerals and a growing volume of cash crops. The socio-political situation continues to remain peaceful and social indicators are steadily improving, as poverty headcount and inequality generally declined. The outlook for the economy in the medium term is favorable with sustained economic growth, low inflation, and improved fiscal and external positions. Real GDP growth is projected in the double digits for 2014 at 13.8% due to continued increases in iron-ore production and export, increased productivity in non-mineral sectors, especially agriculture and construction, and continued public investment[3].

2. PROJECT DESCRIPTION

The 2014 Ebola virus disease (EVD) epidemic is the largest in history, affecting multiple countries in West Africa and Sierra Leone's first Ebola case occurred in late May 2014. Ebola is a severe, often fatal illness in humans. The virus is transmitted to people from wild animals and spreads in the human population through human-to-human transmission.

The World Bank financed project will help to operationalize elements that are contemplated as part of the WHO-led and National Emergency Response Plans, complementing, expanding and intensifying the responses rapidly. They will consist of a group of interventions based on the country's epidemiological and institutional needs and assessed options for meeting them.

[1] World Bank World Development Indicators: Sierra Leone
[2] Ibid
[3] Sierra Leone Economic Outlook, African Development Bank, 2013

The proposed project will provide financing to:

(i) Implement Outbreak Response Plans and concurrently support the countries to provide essential health services during the outbreak (**Component 1**)

Component 1: Support to the EVD Outbreak Response Plans and Strengthening Essential Health Services: This component will contribute to finance critical gaps in ongoing emergency response efforts funded by Government and development partners. To this end, support will be provided to help implement the "Ebola Response Roadmap" developed by WHO with the aim of achieving full geographic coverage with complementary Ebola response activities. The Roadmap envisions applying an Ebola intervention package that includes case management, burials, case diagnosis, surveillance, information, communications and education (ICE) and social mobilization, and sub-national coordination and technical/logistical support.

In addition to the full Ebola intervention package described above,[4] this component will also finance the provision of essential health services to meet other health needs of the population. To strengthen the provision of essential health services, this component will finance PPE, IPC materials and other essential supplies for the non-Ebola focused health facilities, staff training on the proper use of the PPE and IPC supplies, and essential drugs and equipment for the facilities to operate. The funds for Component 1 will be allocated on the basis of priorities included in the national response action plan.

(ii) Address emerging critical issues of securing sufficient national and international health workers for the outbreak response and the provision of essential health services (Component 2);

Component 2: Human Resources Scale Up for Outbreak Response and Essential Health Services: This component will supplement the efforts of Government and other partners to motivate and reward health workers in the affected countries to work on the EVD emergency response and provide other essential health services. Mobilizing and sustaining sufficient human resources to implement Ebola response interventions is a critical aspect of the EVD response strategy. This component will provide a comprehensive package of incentives and activities to motivate health workers and will support the deployment of African and international medical doctors, nurses and other medical and paramedical personnel, including a plan led by the African Union (AU) and WHO.

The component will finance the following activities:

a) **Provision of hazard/indemnity pay to health personnel that work in ETCs and referral centers.** Thoseeligible includes all cadre of staff in ETCs including volunteers. The amount of the hazard/indemnity pay will be defined as to be consistent with the amounts currently paid by the Governments during the crisis. Deliberate efforts will be made to ensure that this new payment arrangement does not distort existing public service remuneration structures. A clear exit strategy will be defined to ensure that those additional payments do not become a burden at the end of the crisis. For instance, beneficiaries will be required to sign a commitment letter notifying them that this arrangement would terminate at the end of the crisis. Third party monitoring mechanisms

[4]Staff cost will be covered in the Component 2.

and internal audit will be instituted to ensure proper documentation of attendance and payments made.

b) **Funding will also be made available for in-country medical care to exposed health workers.** This component will also finance necessary logistics or facilities to secure health workers' access to medical care should they become infected.
c) **Payment of death benefit to families of exposed health workers.** The amount of compensation for families shall be based on the existing rate where it exists and specific country context where it does not exist.
d) **Establishing communication, providing non-financial incentives, and advocating health care workers and volunteers.** The component will help develop communication strategies targeting health care workers, provide a range of non-financial incentives (e.g., awards, branded goods and media publication) to benefit health workers involved in the EVD emergency response, and carry out intensive campaigns to change people's views and attitudes on the health care workers involved in the EVD emergency response.
e) **Recruitment,training, and deployment of expatriate medical doctors, nurses and other medical and paramedical personnel.** This can include the AU and WHO plan described above. The Project will support the implementing of the plan. The actual estimated needs for health workers are being assessed to make sure that the scale of recruitment meets the needs of each country.

(iii)Provide essential food and water to the quarantined population and other Ebola-affected households (Component 3).

Component 3: Provision of Food and Basic Supplies to Quarantined Populations and EVD Affected Households: This component aims to improve access to food and other basic supplies for the EVD-affected households in the quarantined areas and other "hot zones" in Sierra Leone. Specifically, the component will finance delivery of food and basic supplies (e.g., safe water), as well as related logistical and operational costs to individuals directly and indirectly affected by the EVD crisis in quarantined regions. Funds for this component will primarily be channeled to WFP under contracts between Government and the WFP. However, depending on the priority of the supplies to be delivered, funds may also be channeled to other agencies with comparative advantage in delivering those items.

The intervention package supported under this component is designed to increase the availability of food and safe drinking water to prevent rapid deterioration of the worst-affected population's food security and nutritional status.In particular, this component would target: (i) confirmed and suspected EVD cases at Ebola Treatment Centers; (ii) confirmed and suspected contact cases in quarantine or under observation; and (iii) those living in communities isolated in "hot zones" where availability of and access to food is being affected by the crisis. The Project would finance delivery of food items to approximately one-third of the population with Ebola-related food needs in the highest priority quarantined areas and "hot zones", as identified in the WFP Regional Emergency Operation. Some priority centers and geographical areas have been identified based on currently available information (see Annex 4); however, these may change depending on the evolution of the EVD crisis.

It includes a food package in the form of an enhanced general food ration, which is designed to meet the full caloric and micronutrient requirements of beneficiaries. Provision of other basic supplies (e.g., safe water, chlorine) will be determined in line with evolving needs in the quarantined areas, "hot zones" as well as Ebola-affected households. For patients in hospitals or

observation centers, WFP will provide cooked meals through health partners in charge of the facilities. For the rest of the beneficiaries, the WFP would implement General Food Distribution (GFD) through a blanket approach providing take-home dry rations to entire targeted communities.

3. SITUATION ANALYSIS

Since 2002, Sierra Leone has been on the path of recovery from a brutal civil war when Ebola struck on May 25, 2014. Although the process of rebuilding and rehabilitating its health infrastructure was underway, important gaps remained. The Ebola epidemic exposed prior vulnerabilities of the health system. A rapid assessment was undertaken in December 2014 which covered 49 selected health facilities of which 34 were Community Health Centres (BEmONC Centres) and 15 Maternity Hospitals (CEmONC Centres).

The assessment found that the quality of health services was not uniform across the country, some districts performing better than the others. Routine services provided through health facilities were affected across all districts as the EVD outbreak progressed. Nonetheless, health systems in Kailahun and Kenema (the two original epicentres of the outbreak) appear to be performing better and have exhibited their capacity to bounce back. On the other hand, in other districts such as Kambia where health systems were very weak prior to the Ebola outbreak, the utilization of essential maternal and child health services started declining even before the EVD outbreak hit the district directly. This might be because of the already low trust people had in the health system in those districts, compounded by the news of outbreak from neighboring districts (or even across the border in the case of Kambia), resulting in people shunning health facilities altogether.

Physical status of primary health care facilities

Of the CEmONC facilities assessed only 20% met the criteria for infrastructure.Many facilities do not have an outpatient department, while in others, OPDs are conducted in an open corridor, which doesn't comply with the infrastructure requirement. Obstetric wards are largely present only in hospitals. At BEmONC facilities there are no dedicated obstetrics ward. The current assessment shows that all of the BEmONCs and two CEmONCs have no obstetric wards. Where it is available, they are not spacious to accommodate the volume of patients. 98% of health facilities have delivery rooms although there is inadequate space to accommodate two or more beds. 86% of EmONC health facilities have postnatal wards with 100% for CEmONC and 85% for the BEmONC. In one district, postnatal activities are carried out in private homes. Among the EmONC designated facilities, 73% have consultation rooms for ANC/PNC. 15% and 27% of the BEmONC and CEmONC respectively are lacking consultation rooms, and, in some of these facilities, consultations are carried out in open spaces or in the postnatal care wards where privacy is compromised.

Laboratory services across the country, especially in the BEmONC facilities, are a great challenge. The key issues are staffing, infrastructure and capacity to conduct three basic tests: hematology, microscopy and chemistry. Only 53% of the health facilities surveyed have fully functional laboratory services. 93% of CEmONC facilities have functional drugs store/pharmacy while among the BEmONCs, 24% are without functional drug stores.

Providing adolescent friendly corners that guarantee the privacy of this vulnerable group is a challenge. Of the 34 BEmONC facilities assessed only 18 % have space for adolescent

counselling. Some clinics use the general consultation room for the same purpose. Also, only 41% had IEC information billboards.

Power and Backup supply: Power supply to health facilities are generated largely from national grid, solar and generator. Of the CEmONC-designated facilities assessed, 88% have power supply and only 55% of these have a backup source. There are huge challenges in running and maintaining the sources of power in the respective health facilities ranging from fuel cost, battery problems for solar and the erratic power supply from the national grid.

Water supply: Water availability is a critical element in infection prevention and control in healthcare settings. In the context of the EVD response in the country, the availability of adequate water supply is more important than ever. This assessment shows that, 55% of the health facilities have running water. 53% and 27% of the BEmONCs and CEmONCs respectively did not meet the criteria for running water.
UNOPS will ensure feeding the water network of 22 facilities with enough capacity with reference to the need, all year round.

Waste disposal: Having a functioning incinerator or an appropriate burning pit was chosen as the indicator for a health facility with an acceptable waste management system. Nationally, 72% of facilities reported having a functioning incinerator or appropriate burning pit. Among the facilities assessed, 53% and 44% of the CEmONC and BEmONC respectively have incinerators.

UNOPS will as well provide a low fuel consumption incinerator (De Monfort Mark 9 technical specifications are available) to be installed in a upgraded waste management facility, fenced and covered, provided with relevant pits (ash, organic, sharp/residual) as well as with water point to guarantee easy hygienically cleaning and with 4 boxes for temporary storage. The area will also be accessible by trolley (ramp or walkways).

UNFPA has a Green Procurement Strategy, which guides UNFPA's collaboration with contractors and suppliers. These guidelines are directly relevant to this project and they include specific guidance for contractors regarding energy consumption, water, waste management, recycling, transportation, etc.

Outreach: All health facilities indicated running outreach activities at community level. Outreach activities focused on EPI, ANC and PNC, and not specifically on adolescents' services. Following the Ebola outbreak in May 2014, current outreach campaigns are centered on the Ebola preventive campaigns and also on the recent antimalarial distribution. Outreach on RMNCH is not currently effective.

Social: The EVD outbreak has impacted the health system in two distinct ways. First, it has inflicted a large toll on the country's scarce health human resources and countries found themselves in insufficient numbers, under-equipped, and underprepared to control the disease.[5] Lacking hygiene training and equipment, they were unable to implement demanding Infection Prevention and Control measures, leaving them exposed to infection during routine contact and enabling further transmission to other health workers, patients and family members. As a result,

[5] Hayden, "Infectious disease: Ebola's lost ward", Nature, 24 Sep 2014, http://www.nature.com/news/infectious-disease-ebola-s-lost-ward-1.15990

health workers became infected with EVD and by November, the number of infected health care workers has nearly doubled to 239, including 179 confirmed EVD cases and 77 confirmed EVD deaths.[6] Visits to health centers or through infected health workers are among the largest causes of EVD transmission in Sierra Leone after contacts, funerals and travels.

Secondly, the impact of Ebola goes far beyond its lethality, and the high fatality rates create fear, panic and confusion among the population. As several health facilities were transformed into Ebola Holding Centers or Treatment Centers, regular health facilities have become associated with Ebola. At the same time, the continued lack of sufficient Ebola treatment facilities increases distrust, pushes families to keep sick members at home, while Ebola patients remain unattended, further spreading the disease.

4. ENVIRONMENTAL AND SOCIAL ASPECTS OF PROJECT FINANCING

Component 1 support to the implementation of EVD Outbreak Response Plans includes improving epidemiology and laboratory for early detection, reporting and referral through surveillance and investigation; case management and infection prevention and control; as well as social mobilization/public information to create public awareness. Component 2 of the project involves financing Health workers will include support to enhance the field presence of health care workers; laboratory diagnosis facilities and logistic support such as protective gears and insurance benefits. Component 3 involves addressing food and nutrition crisis and possibly portable water and sanitary facilities to the quarantined population in the MRU Region that crosses borders between Guinea, Liberia and Sierra Leone. The focus is on vulnerable population, such as under-five children, pregnant and lactating women; and emergency school feeding.

The project will therefore support the Government in improving the infrastructure in existing key hospitals and clinics. The scope and scale of constructions is expected to include construction of a small triage unit (rooms) within the hospital/clinic compound. Others can include fencing, replacement of roofing, electricity, waste management (incinerators), interior water and sewage. The project willsupport the updating of existing national guidelines on Healthcare Waste Management in line with WHO standards, along with training for health care workers to manage medical waste following these guidelines. This will be supplemented with purchase of equipment for the proper handling, the disposal of medical waste in participating facilities, and the appropriate handling/burial of Ebola case fatalities. It will also enhance and sustain the ongoing public awareness education programs. Capacity building on proper infection control measures at all levels of the health system – hospitals, clinics, and health posts –will be enhanced and sustained under the Project to mitigate this potential impact, along with development of National guidelines on Infection Control. In addition to standard hand hygiene techniques, the project will (i) support the provision of appropriate personal protection equipment (PPE) which will be mandated for all healthcare workers when providing care to EVD patients, and (ii) all areas in clinics will need to be cleaned and disinfected frequently, especially those that are in close proximity to an EVD patient.

The activities being financed on the ground are not expected to involve large scale construction, land acquisition or involuntary displacement of people. However, there are environment and social impacts resulting from construction of temporary Ebola Treatment Centres (ETCs),

[6] WHO RoadMapSitRep dated 26 November 2014

infection control interventions and use and disposal of chemicals and management of healthcare waste within and from healthcare facilities. The project will not finance construction of new buildings, roads or food storage facilities and thus environmental impacts are expected to be moderate and no land acquisition will take place.

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 of environmental management plans to address the impacts. The main sources of impacts would be from proposed expansion, minor civil works and rehabilitation works of the facilities.

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, increase on solid and liquid wastes on premises among others. 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 and could expose workers, facility staff and neighboring population to potential health hazards. Annex 1 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 and depletion of vegetation that could result in loss of tree/plant cover
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 neighborhood. 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.
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 neighborhood 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	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.
Impacts of construction activities on patients, healthcare staff and other stakeholders.	Refurbishment work undertaken in the same buildings having patients has 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.
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. Note that stakeholder participation will take place both centrally and at the district level.
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 nonexistent 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 can result in 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. The model chosen by UNOPS and UNFPA has been tested for air pollution and residual smoke are considered within an acceptable range (Lab results are available)
Community health risk due to improper waste management	Improper infectious waste disposal can cause public health risks due to environmental pollution: impaired air quality, wastewater/sewage handling, 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	Renovation will allow better healthcare services to be provided to

and life of healthcare facilities	communities

5. OBJECTIVE OF ENVIRONMENT AND SOCIAL MANAGEMENT FRAMEWORK

Since the exact locations and types of civil works is not known, 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.

Purpose of the ESMF

The project components proposed have environmental safeguard issues and this EMF documents provides a framework to address these issues. The projects components are to be designed and implemented by integrating the national policies, guidelines, codes of practice and procedures proposed in this EMF. The objectives are to ensure that the activities undertaken in the project:

- Enhance positive environmental outcomes;
- Prevent negative environmental impacts;
- Identify and mitigate with appropriate measures, the adverse impacts that might arise;
- Obtain Environmental Clearance form DOE; and
- Ensure compliance with the World Bank's environmental safeguards policies.

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 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-project 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.

6. LEGAL FRAMEWORK

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

i. The **Environmental Protection Act:** The act brought about the establishment of the National EnvironmentalProtection Board (NFPB) which supervises the activities of EPA. Among the main objectives ofthe Board is to ensure that an EIA is conducted for all projects including civil engineeringprojects proposed to be implemented. The NEPB is further empowered to issue environmentalpermits to projects implementation who's EIAs has been conducted and for the mitigation andmanagement plan to be implemented alongside the project implementation phase. The Boardis also required to prescribe environmental regulations and standards relating to water and airquality, pollution control and the monitoring of environmental issues in Sierra Leone.

   The Act was amended in 2008 and in 2010 and empowersthe Minister of Lands, Country Planning and the Environment to make regulations andguidelines which protect the environment. This act created and empowered the EnvironmentProtection agency which has the overall mandate of setting and monitoring environmentalstandards.

ii. **Local Government Act (2004)**enables the establishment of nineteen localcouncils and provides for decentralization and devolution of functions, powers and services to local councils. The Act devolves the water supply and sanitation responsibilities to Districtand Town Councils.

iii. **Public Health Act 1996 and the 2004 Addendum**vests the responsibility forenvironmental sanitation in the Ministry of Health.

iv. **Integrated National Waste Management Policy** (INWMP) 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.

v. **The Persons with Disability Act**, 2011establishs 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.

vi. **The Right to Access 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.

7. COMPLIANCE WITH WORLD BANK SAFEGUARDS POLICIES

Proposed civil works for construction of new facilities and rehabilitation of facilities have potential of 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).

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.

8. 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
- timeline 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. There are some activities which would not be supported by the project, which are included in a negative list (Annex 5)

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 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 (EMP) which will be prepared.

This ESMF includes an EMP-checklist which can be used as the Environmental Management Plan (EMP) 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 EMPs. **It is the intent of this checklist that Part 2 and Part 3 be included as bidding documents for contractors.**(Annex 4)

The EMP-checklist which is 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 EMP-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.

STEP 3: APPLICATION AND REVIEW 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.

9. INSTITUTIONAL ARRANGEMENTS

At the National level, an Ebola Emergency Operation Center (EOC) co-chaired by the Minister of Health and Sanitation (MoHS) and WHO Representative, and representative from other participating Ministries and partners has been formed. The EOC will make project-related decisions (e.g., investment plan for Component 1) and provide oversight of the project progress. The MoHS will lead the implementation of Component 1 with technical support from WHO. The MoHS will also contract out part of the work to technical agencies (e.g., WHO, UNICEF, UNFPA) to ensure the rapid delivery of services.

The MoHS 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. The rresponsibility for screening of the intervention actions and implementation of any designed mitigation is with the MoHS and EOC. Additionally the National Commission for Social Action (NaCSA)) is responsible for structuring social infrastructures in Sierra Leone It is a semi-autonomous government agency which augments the work of social sector ministries and agencies and local authorities in delivering social services to reprieved and remote communities across the country. It is governed by a board of directors with representatives from government, donors and civil society.

NaCS's broad mandate is 'to provide and otherwise engage in social relief programs and to promote community-based demand-driven and sustainable development activities leading to the alleviation of poverty and improvement in the speed, quality and impact of development initiatives in cooperation with NGOs, relevant ministries, private sector and other interested partners".

The above mentioned will play a key role in the implementation of Component 2 of the ESMF and has experience of Bank Safeguard requirements from the management of the ongoing Bank Social Protection investments in the country.

10. DIRECTORATE OF ENVIRONMENTAL HEALTH AND SANITATION

Background Information

The Environmental Health Directorate, which is one of the oldest departments in the Ministry of Health and Sanitation, was set up to execute preventive public health measures as well as protect the environment from possible contamination.

The restructuring of the Environmental Health Division to a Directorate has faciliated the prominence of sanitation activities within MoHS and WASH sector.

In order to establish an efficient and effective Environmental Health and Sanitation Directorate (EHSD), the MoHS considered the following:

- Create a national framework and mechanism for inter-sectoral action to adequately address the inter-linkages between health and the environment;
- Invest in the required infrastructure related to environmental health services;
- Human resources capacity building
- Provision of adeqaute financial and material resources

With the devolution of services, the core functions of the MoHS at national level remain as "Policy formulation; standards setting and quality assurance; resource mobilization; capacity development and technical support; supervision; co-ordination of health services; monitoring and evaluation of the overall sector performance and training.

The Public Health Ordinance 1960 and the Agenda Acts 1978 and 1996 vests the responsibility for Environmental Sanitation in the Ministry of Health and Sanitation.

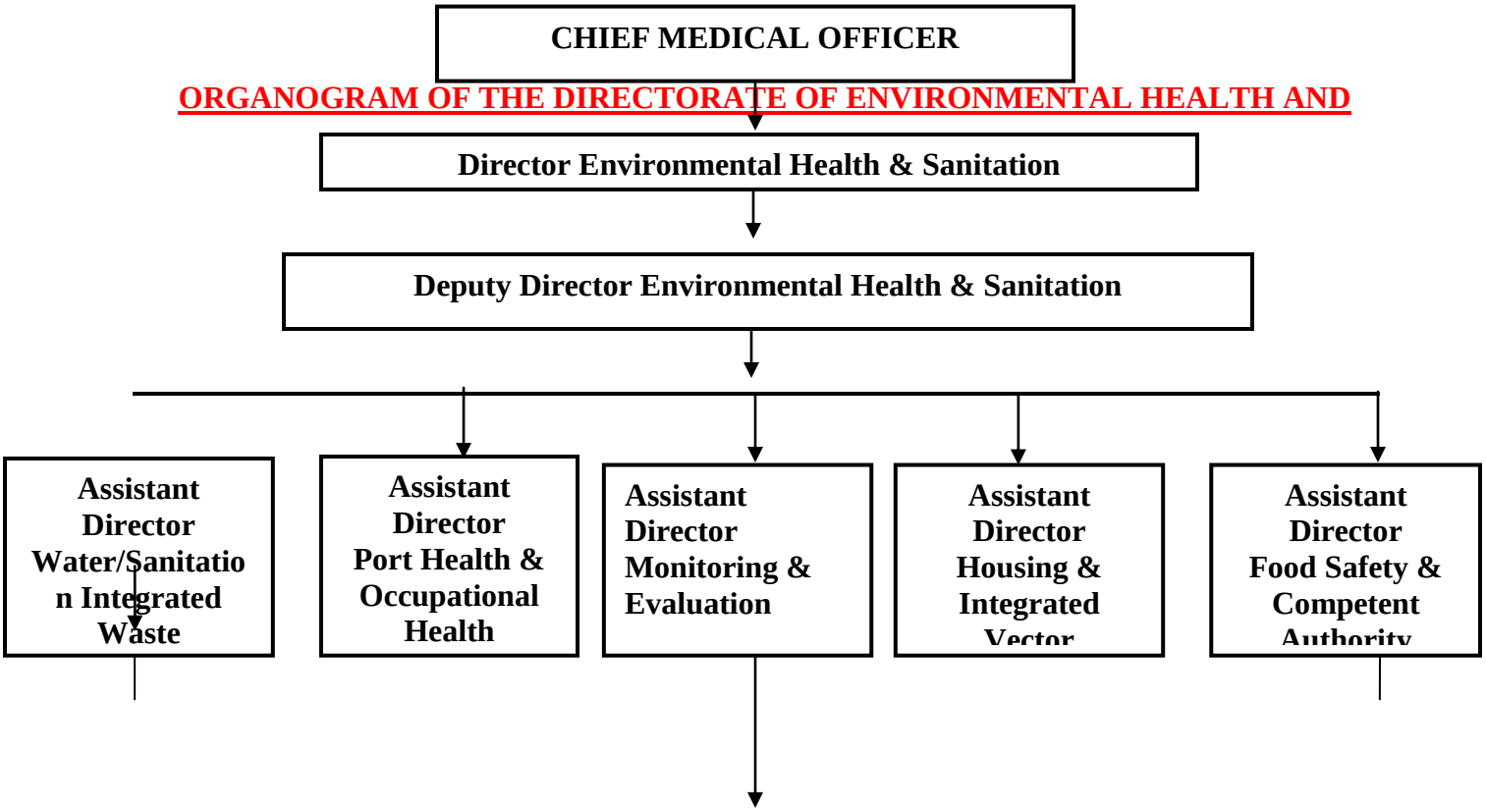
With regards to Water, Sanitation and Hygiene, the Environmental Health Division (EHS) is responsible for carrying out the oversight functions of the Ministry of Health and Sanitation. The elevation of the Environmental Health Division to EHSD will facilitate effective and efficient execution of the laid down functions under the leadership of a Director. Although the department faced operational challenges which seemed to be insurmountable, operational policies and guidelines were developed with support of WHO and other partners

- Integrated Vector Management Policy, 2010
- Integrated Vector Management Strategy and Guideline, 2010
- Harmonised Pesticide Policy, 2013
- National Integrated Waste Management Policy 2013
- National Integrated Waste Management Strategy 2013
- Situation Analysis and Needs Assessment 2012 (SANA) on Environment and Health Report.

- National Environmental Health Policy – 2000;

Currently, the National Environmental Health Policy (2000) and the Public Health Ordinance 1960 are under review.

ORGANOGRAM OF THE DIRECTORATE OF ENVIRONMENTAL HEALTH AND



Goal, Vision, and Mission

Goal: Healthy, clean and hazard-free urban and rural environment everywhere in Sierra Leone

Vision: To provide high quality, efficient and effective environmental health services to the nation.

Mission: To develop and maintain a clean, safe and pleasant physical and social environment in all human settlements, to promote socio-cultural, economic and physical well-being of all sections of the population.

MANDATES OF THE ENVIRONMENTAL HEALTH AND SANITATION DIRECTORATE

- Formulate policies, strategies and guidelines on all aspects of Environmental Health and Sanitation
- To safeguard public health and safety by ensuring that risks to public health from contamination, pollution, poor hygiene and sanitation are minimized or eliminated
- Facilitate technical capacity building; resource mobilization; planning and budgeting; coordination and supportive supervision
- Monitor & evaluate sector activities
- Ensure compliance and enforcement of statutory instruments relating to Environmental Health and Sanitation
- Promote and enable sector investment
- Education/Awareness
- Knowledge Management, translating lessons learned into policy

CORE FUNCTIONS OF STAFF OF THE DIRECTORATE

Environmental Health Officers are appointed under the Public Health Ordinance (1960) where their duties are specified. The Department of Environmental Health and Sanitation plays a

leading role in prevention and control of communicable diseases. The following are the functions of the Directorate staff:

ROLES AND RESPONSIBILITIES OF THE DIRECTORATE OF ENVIRONMENTAL HEALTH AND SANITATION

General duties

1. Advise the Chief Medical Officer on the Environmental Health and Sanitation, standards policy, priority services and resource allocation.

2. Coordinate the overall activities of the Environmental Health and Sanitation Directorate.

3. Liaise with United Nations agencies (e.g. WHO and UNICEF), International/National Non-Governmental Organisation, academic and research institutions relating to Environmental Health and Sanitation.

4. Review the departmental and ministerial programme to ensure that current sanitation challenges are being addressed.

5. Provide guidance to Environmental Health Practitioners at national and district levels in developing annual work plans and budget estimates for the approval of the Chief Medical Officer

6. Actively participate in relevant national and international meetings

7. Review and monitor budgets allocated to Environmental Health and Sanitation Directorate

8. Facilitate accessibility of Environmental Health and Sanitation Data and Information by all relevant stakeholders at the National and District levels.

RESPONSIBILITIES

Part of improving Ebola and Medical Waste (EMW) management involves clarifying who is responsible for what functions and identifying the fields of competencies of each institutional actor involved in this process. A brief synopsis of functions and competencies is provided below.

AT THE CENTRAL LEVEL:

The MoHS is responsible for national health policy and ensures the guardianship of the health facilities. Environmental Health and Sanitation Directorate (EHSD) will take the lead in coordinating the implementation of EMWM plan because: It is part of its mission, it has competent staff in this field, and it has decentralized services at district level.

AT THE DISTRICT LEVEL

The District Health Management Team with the supervision of the District Medical Officer will need to put in place arrangements to make sure that EMW are not mixed with general wastes in their public landfills. They should also give their opinion about the EMWM plan activities proposed for health facilities in their jurisdiction. Coordination of the monitoring and reporting on implementation of the EMWM will be exercised by the Health Team, in particular the Environmental Health Officer.

AT THE HEALTH FACILITY LEVEL

The Head of each health facility shall be responsible for EMWM in his/her establishment. he/she must ensure that EMWM plan is prepared and then monitored, to ensure that procedures and regulations are respected. Head of that Unit must designate the teams in charged with EMW segregation, collection, transportation and treatment and supervised by Environmental Health officer.

UNOPs

With reference to the intervention to be made by UNOPS (waste management facility upgrade and installation of a low fuel consumption incinerator), they will be carried out through appointed Contractor.

In in order to ensure alignment of the works with Environmental policies and procedures, as well as to ensure quality of the Works to be done, the implementation of the works will be supervised directly by UNOPS, through a "resident" site supervisor. The PIU from the ministry of health will accompany the process to ensure collection and collation of supervision data.

The supervision team will include an environmental specialist who visits/inspects the site regularly (QA/QC monitor), as well as a technical coordinator who oversees the entire implementation of the project (for all involved facilities), ensures standardisation of the intervention, shares lessons learned, and carries out risk management and appropriate reporting.

Template of the "site environmental management plan" as well as "Inspection form" have been adapted to the case and will be used by the supervisors. The Environment protection Agency will be involved in the environmental monitoring of the project.

UNFPA MONITORING AND SUPERVISION

For facilities to be rehabilitated by MOHS/UNFPA, a team of 10 "resident" Facility Supervisors (junior engineers), under the supervision of one Senior Engineer, have been recruited to oversee and monitor construction on-site, as well as to ensure compliance of the contractors with MOHS/UNFPA/WB instructions and guidance, including all provisions of the ESMF.

A Civil Works monitoring team including the senior engineer, the Operations Manager and/or a Programme Technical Specialist will visit the sites regularly during the entire duration of the project, ensuring standardization of the intervention, sharing lesson learn, risk management and appropriate reporting.

Finally, this supervision will be complemented by quarterly visits by the Joint-Supervision team composed of Programme staff of UNFPA and MOHS (including the RCH Directorate). UNFPA is undertaking the following measures:

- Stakeholders meeting for relevant local stakeholders (DMOs, hospital management, local councils, etc) organised by MOHS (RCH Directorate) with support from UNFPA

- Recruitment of a Senior Engineer, which will directly report on implementation of the ESMF

- Recruitment of 10 "resident" Facility Supervisors (junior civil engineers), which TORs will specifically include the monitoring of contractors' compliance with ESMF

- Set up of Monitoring/Supervision teams with representatives of MOHS and UNFPA to regularly monitor progress of civil works

- Development of various tools (including checklists and instructions to Facility Supervisors and Contractors) to be annexed to the UNFPA Project Environmental and Social Management Plan

11. INSTITUTIONAL ARRANGEMENTS FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

Effective implementation of the ESMF Plan components requires that institutional arrangements and responsibilities be clearly defined. The following institutional arrangements are proposed:

Improvement of Institutional Framework
The co-ordination structure should be set up by the EHSD. The Directorate should take the lead in developing the ESMF regulations and technical guidelines. National consultants, having acquired a large experience in ESMF, should realize this task under the control and supervision of EHSD.

Actors	Potential field of intervention
Technical services of the Government (MoHS)	inform the local and national authorities facilitate co-ordination of HCWM plan activities supply technical expertise develop guidelines for HCWM develop M&E tools execute control and monitoring of activities train the health staff/supervisors monitoring and evaluation of HCWM

City councils/district governments	participate in the mobilization of populations ensure HCW are properly disposed in their landfill participate in training, monitoring and evaluation
UNFPA	UNFPA's role is to support MOHS in rehabilitating selected maternities in CEmONC and BEmONC for quality service delivery. For facilities to be rehabilitated by UNFPA/MOHS, UNFPA will be responsible to undertake day-to-day supervision of construction works (through Facility Supervisors and Senior Civil Engineer) and to ensure compliance with ESMF for the duration of civil works. UNFPA will also support MOHS by providing technical assistance and operational support to training, M&E and supervision activities.
UNOPS	To carry out necessary works in order to upgrade the waste management facility (adapted to the hospital actual situation and needs), including the installation of the low fuel consumption incinerator and related pits (ash, organic, sharp/residual), 4 boxes for temporary storage of selected wastes (hazard, biomedical/clinical, organic and generic), trolley granted access, water point for cleaning To provide functional and maintenance manual and basic training To coordinate with other partners and/or Hospital dedicated staff to align protocols and procedures (Please refer to attached UNOPS - ESMF log frame for all details)
Private operators	invest in HCWM (e.g., treatment, transport, disposal) operate as sub-contractors (City Assemblies / District Government Health Facilities)
NGOs and CBOs	inform, educate and make population aware participate in / offer training activities
EPA	To ensure the safety and protection of the environment.
Ministry of Works	Provide Infrastructural development
Min. of Lands, Housing, Country Planning and the Environment	Provide primary disposal sites and landfill sites

12. POPULATION AWARENESS

The Health Education Unit of the MoHS will lead the activities intended to increase the awareness of the general public about the risks associated with ESMF. At local level, District Management Teams will do the supervision of such activities.

These activities like social mobilization will be done during a specific time frame of the program, through district animations, radio and television messages, posters, etc., and will further be done as follows:

- The Health Education Unit of the MoHS will elaborate, with the help of the EHSD, the content of these messages;
- The televised messages will be disseminated by the National Station;
- The radio messages will be disseminated by the local radio stations, in English and local languages, under the supervision of district management teams. Private companies (printing enterprises) will make posters to be used in the health facilities;

13. STRATEGY FOR PRIVATE SECTOR INVOLVEMENT AND PARTNERSHIP

The elaboration of measures to involve private companies more directly in ESMF will be coordinated by the MoHS, in collaboration with district governments and city councils.

14. BASELINE SURVEY AND ACTIVITY PLANNING

National consultants, supervised by EHSD, will carry out a baseline survey at the beginning of the investment phase. During this task, the consultants will indicate the situation prevailing presently in the health facilities, elaborate evaluation criteria, and prepare the execution plan.

15. MONITORING OF THE ESMF PLAN

Monitoring systems can be an effective way to:

Provide constant feedback on the extent to which the projects are achieving their goals.

Identify potential problems at an early stage of implementation of the project and propose possible solutions.

Monitor the accessibility of the project to all selected hospitals.

Monitor the efficiency with which the different components of the project are being implemented and suggest improvements.

Evaluate the extent to which the project is able to achieve its general objectives and deadlines.

Show need for mid-course corrections. A reliable flow of information during implementation enables managers to keep track of progress and adjust operations .

The PIU will be responsible for monitoring and evaluation. The team will select a sub-group from among themselves and committed stakeholders. The team may:

1. Draft the duties, responsibilities and competencies required of the monitoring and evaluation (M&E) team.
2. Identify potential members of the team, taking into consideration the structures and systems for M&E that are mandated or are currently in place.
3. Orient the team for M&E work.

The M&E team will prepare evaluation plans using the following guidelines:
1. Design and adopt an M&E tool: drafting, validating and adopting.
2. Conduct quarterly assessments of project implementation and results.
3. Conduct annual assessments of overall plan implementation and achievements of the plan objectives.
4. Preparation of reports: quarterly, annual, reports for council, staff and public.

Action	**Who** • **Does it.** • **Oversees it.**	**Approves it**	**When**
Monitoring and Evaluation: • Identifying the monitoring team. • Prepare an evaluation plan. • Implementation of the evaluation plan.	• Directorate of Environmental Health (PIU) • Planning team or monitoring team appointed by the PIU Involvement of the PIU in the planning in order to align intervention to established procedures/protocol (UNOPS) • To train users on functioning and maintenance of the waste management facilities (UNOPS) • UNFPA to provide information on civil works in relevant facilities	Ministry of Health and sanitation (Minister and CMO)	
National Supervision on the Construction of triage, hand pump, incinerators and Rehabilitation of Hospital and CHC	PIU/hospital and laboratory other partners/UNFPA and UNOPS	CMO	
Construction of triage, incinerators, wells and	UNPFA, UNOPS	CMO	

rehabilitation and improve the access to water in selected hospitals			
Supervise and review environmental and social safeguard documents	PIU/EPA	CMO	
Evaluate the implementation and outcome of safeguard measures	PIU/World bank/external audit	CMO/world bank	

At the local level, it is recommended that the district management teams ensure regular programme oversight and provide monthly monitoring reports, while the six-monthly follow up will be realized by EHSD.

An independent assessment of the civil works funded under the program will be undertaken halfway through and prior to the end of the program .UNOPS will guarantee, through a direct supervision and QA/QC follow up, the alignment to the EMS handbook as well as Infrastructure Policy in force of the works -to be undertaken under its responsibility

Monitoring and Evaluation Budget

Item	unit	unit type	unit	unit type	unit cost(SLL)	total cost per month (SLL)	total cost per year (SLL)	total cost (SLL)	Total cost ($)
printing of tools	3	pages	40	copies	20,000.00	2,400,000.00	2,400,000.00	2,400,000.00	$ 470.59
replicating checklist	3	pages	40	copies	20,000.00	2,400,000.00	2,400,000.00	2,400,000.00	$ 470.59
printing of Document	105	pages	80	copies	10,000.00	84,000,000.00	84,000,000.00	84,000,000.00	$ 16,470.59
staff DSA	3	staff	5	days	350,000.00	5,250,000.00	63,000,000.00	315,000,000.00	$ 61,764.71
top up	1	top up	3	staff	200,000.00	600,000.00	7,200,000.00	36,000,000.00	$ 7,058.82
Fuel	3	staff	3	staff	250,000.00	2,250,000.00	27,000,000.00	135,000,000.00	$ 26,470.59
DSA for Drivers	3	Drivers	5	days	150,000.00	2,250,000.00	27,000,000.00	135,000,000.00	$ 26,470.59
External Auditor	1	person	11	days	1,000,000.00	11,000,000.00	11,000,000.00	11,000,000.00	$ 2,156.86
Fuel and Lubricant	1	Vehicle	5	days	1,000,000.00	5,000,000.00	60,000,000.00	60,000,000.00	$ 11,764.71
Maintenance for car	1	Vehicle	1	Vehicle	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00	$ 392.16
Laptop	1	Laptop	1	Laptop	6,000,000.00	6,000,000.00	6,000,000.00	6,000,000.00	$ 1,176.47
internet	1	modem	1	modem	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	$ 196.08
internet running cost	1	modem	1	modem	400,000.00	400,000.00	4,800,000.00	24,000,000.00	$ 4,705.88
				Total	**12,400,000**	**124,550,000.00**	**297,800,000.00**	**813,800,000.00**	**$ 159,568.63**

16. CONSULTATIONS AND DISCLOSURE

The key stakeholders include individuals suffering from EVD, affected communities, healthcare workers, the donor community, the implementing Ministries and related government agencies specially set up to help implement the joint EVD Outbreak Response Plan within the three hardest hit countries. The draft ESMF that will be prepared during implementation, will be publicly consulted on and disclosed in-country (and globally through the World Bank Info Shop) in a form and language appropriate for public comprehension prior to its finalization.

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.

Implementing schedules-for construction related works

	2015				2016				2017				2018				2019			
Objectives	**Q1**	**Q2**	**Q 3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
Site review, screening and design of construction. recruitment of a Senior Engineer and Facility Supervisors (UNFPA)																				
Stakeholder involvement																				
Construction of triage, wells, incinerators and rehabilitation of selected hospitals by UNOPS and UNFPA																				

Monitoring and Supervision of ESMF plan By PIU, UNOPS,UNFPA, and EPA																				
Independent Assessment of ESMF implementation (World Bank)																				
commissioning																				
Reporting and project closure																				

Conclusions and Recommendations

This EMF is a document to provide guidelines as to how the environmental safeguard issues can be addressed for the Waste Management plan. As discussed in the earlier sections, the proposed sub-projects under the project will have rather small scale environmental impacts that can be managed if the procedures given in this EMF are followed. The project staff and other relevant persons should be trained so that they can fully implement the actions needed under the EMP. Provision for adequate funding must be made in the project's operational budget for this purpose.

ANNEX 1:
MATRIX OF MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
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.
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.
Toxic	Asbestos	1. If asbestos is located on the project site, it shall be marked clearly as hazardous material; it is to be

Materials	management	stored temporarily, it securely contained and sealed to minimize exposure and marked appropriately 2. The removed asbestos will not be reusedand 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	(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
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
Traffic and Pedestrian Safety	Direct or indirect hazards to public traffic and pedestrians by construction	(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

	activities	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]**			

No	Issues	Yes	No	Proposed Mitigation Measures
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**			
i.	Will the sub-project require the setting up of ancillary production facilities?			
ii.	Will sub-project require sourcing of building and construction materials and equipment			
iii.	Will the sub-project require construction workforce who will need to be providedaccommodation or service amenities			
iv.	Will the sub-project generate solid (construction, rubble, cement etc) and liquid waste (chemicals, oils, wastewater etc)			
v.	Will the sub-project require raw materials or construction materials?			
vi.	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?			
vii.	Will the sub-project involve the use of chemicals or solvents?			
viii.	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?			
ix.	Will the sub-project increase the levels of air emissions during construction or equipment movement?			
x.	Will the sub-project generate dust and noise during construction?			
xi.	Will the sub-project increase ambient noise levels?			
xii.	Will the sub-project involve the storage, handling or transport of hazardous substances?			
xiii.	Will the sub-project have an impact on on religious monuments, structures and/or cemeteries, archaeological or historical sites?			
xiv.	Will the sub-project lead to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles?			

No	Issues	Yes	No	Proposed Mitigation Measures
xv.	Will the sub-project result in dismantling or removal of asbestos			
xvi.	Will the sub-project involve demolition of existing structures?			
C	**Design Issues**			
i.	Does the sub-project need provision of water supply			
ii.	Does the sub-project need provision of electricity			
iii.	Will the sub-project generate large amounts of residual wastes, construction material waste or cause soil erosion?			
iv.	Will the sub-project result in potential soil or water contamination (e.g., from oil, grease and fuel from equipment yards)?			
v.	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?			
vi.	Will the sub-project involve the use of chemicals or solvents?			
vii.	Will the sub-project involve the storage, handling or transport of hazardous substances?			
viii.	Does the sub-project need provision of wastewater treatment			
ix.	Safety Issues			
x.	Will the sub-project lead to inflow of labour and temporary construction camps?			
xi.	Is the -project or sub-project located in an area from which people have been displaced?			
xii.	Is the sub-project located in an area where people will be temporarily relocated?			
xiii.	Is the sub-project located in a densely populated area?			
xiv.	Does the sub-project require land acquisition? [**Note: If YES, the sub-project cannot be financed]**			
xv.	Will the sub-project negatively impact livelihoods? [Note: Describe separately if YES]			

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**							

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-projectsconcerning 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 (forrehabilitation/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 followingactivities 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.

ANNEX 7
UNOPS GUIDANCE TO ENVIRONMENTAL MANAGEMENT SYSTEM HANDBOOK

Structure of the UNOPS EMS

1 Environmental Policy OD40: Gives overall organisational commitment and direction

2 EMS Procedures and Processes: Sets out what needs to be in place and what needs to be done for the Environmental Management system. Found in EMS Handbook section 1 to 24

Key sections covered by UNOPS key procedures:

a. Planning i. Aspects & Impacts: Environmental Screening , Environmental Review, Environmental Management Plans (SEMP and PEMP) ii. UNOPS Guidelines, Local Requirements, other requirements iii. Objectives, Targets, Plans

b. Implementation i. Ensuring that Environmental Plan is understood by all and that it becomes part of business as usual. Also ensuring that the key controls are in place and working ii. Assigning responsibilities iii. Training: EMS training, Toolbox Talks/fact sheets, lessons learned iv. Communications v. Emergency preparedness vi. Use of latest documents/templates and maintaining records

c. Self-monitoring i. Weekly Inspections ii. Monthly Reporting

d. External/Independent Monitoring i. Legal and other requirements compliance Monitoring ii. Internal Audits iii. External Audits

e. Management Review: Senior management review the EMS and change the direction and thrust of the system. They may reduce, increase or maintain the same resources and organisational focus on the EMS depending on the needs of the organisation

LeadS ID/Project Number	
Project title	EERP – Ebola Emergency response project
Proposed project budget	
Proposed project duration	9 months
Implementing BU	
Project manager/Developer	Antonio Baio
Officer responsible for environmental planning	
Brief outline of the project scope	To provide (22) hospital(s) with a low fuel consumption "built *in situ"* De Montfort Mark 9 Incinerator, to rehabilitate waste management area, to be matching minimum standards requirements (fencing, ash and placenta pits, separated zone for waste selection (biohazard, organic, bio-medic, general)

Version Control

Version	Date	Author
V 0.00	24.07.2015	Itai Mukuvari, Antonio Baio
V 0.01		
V 0.02		

The Project Environmental Management Plan (PEMP) describes how the potential environmental impacts will be addressed throughout the project cycle.

The Project Environmental Management Plan covers the design and implementation of the project, and includes mitigation measures/actions that are within UNOPS control and influence only.

Issues to consider	ASPECT description	Potential IMPACT (under normal, abnormal or emergency situations, as required)	Applicable Environmental Legislation, Other Requirements and Guidance	Significance Rating	Action required / MITIGATION
The list of impact types is not exhaustive and will vary between projects (see additional guidance on page 2 of this programme)	How do the project activities interact with the environment in terms of the issues in the left hand column? *E.g. Debris from bridge repairs falls into river; or New road reduces congestion in town centre*	What change (impact) would this aspect of the activity have on the environment? Impacts may be positive(+) or negative(-) *E.g. Debris pollutes river; or Improved air quality, reduced noise*	List relevant environmental legislation and regulations, related requirements of the brief or contract and any relevant guidance	Low, Medium or High – see the Notes below	Identify whether the impact can be cont influenced by UNOPS and if so, what a *E.g. Erect shuttering to prevent debris f or incorporate green design, or to be ma contractor on site according to REI*
Community and stakeholder issues (i.e. planning requirements)	1. Transportation of materials to site, movement of construction crews 2. Establishment of a construction camp	1. Interference with traffic, obstructing patients and health service providers 2. Conflict between construction workers and community, inadequate welfare facilities for employees	Public Health Act (2004)	L H	1. Good planning of Route and time movements, coordination with Hosp Management 2. Refer to UNOPS construction ca GHS14. Have communication /cons process with relevant stakeholders
Landscape & visual impact, Archaeology and cultural heritage	Location of structures and placement of debris and materials	Visual intrusion from works may affect the appearance of the scenery or interfere if structures of cultural or other significance	UNOPS Guideline GEM 06	L	Ensure hospital land ownership, appropriate scenery, culture and issues they may be important to t population when siting works
Ecology (habitats, flora and fauna)	Clearing land for building incinerators	Destruction of flora and fauna, damage to habitats, loss of endangered species	Environmental management Act (2008)	M	Keep to demarcated/fenced area, choose lowest impact area for sp

Issues to consider	ASPECT description	Potential IMPACT (under normal, abnormal or emergency situations, as required)	Applicable Environmental Legislation, Other Requirements and Guidance	Significance Rating	Action required / MITIGATION
Air quality (emissions and indoor air quality)	1. Handling of materials, excavations, 2. Incineration process	1. Release of dust into the air and onto vegetation and building, occupational exposure, 2. Under designed, easy to use incinerator might not sufficiently destroy pathogens in highly infectious waste therefore contaminating surroundings e.g. through fall-out dust or residues.	Environmental management Act (2008) Public Health Act (2004)	M H	Watering down, covering materi during delivery, PPE and admini controls to limit employee expos 2. UNOPS will supply lower tem incinerator for the medium size H incinerators. Host Government a shall formally acknowledge that practical solution they requested to put in place training and other arrangements for identification a treatment of waste that cannot be in these units. UNOPS shall imp running and maintaining the unit Residual from low temperature i will be temporary stored in the “
Water (usage, discharges and risk of floods)	1. Siting of incinerator, placing of material, removed soil	Negative effect on drainage, erosion, siltation	Local Government Act (2004)	M	Weekly inspection program (usi form) will identify issues that ne correction.
Contamination	Interaction with existing waste on surface or in excavated materials.	Spreading of contaminated areas, exposure of construction workers to disease.	Public Health Act (2004)	M	contractor to do risk assessment attached form - Health and safety contamination is suspected.
Energy (usage, source, cost etc)	Design of Triage and incinerators, training and handover of facilities	Damage to the environment because of poor energy source, Depletion of source energy resources	Environmental Management Act (2008)	M	1. sustainable energy solution to design solution. Consideration fo use renewable/ clean, readily ava of energy. Consideration for loca maintain a solution with a particu source.

Issues to consider	ASPECT description	Potential IMPACT (under normal, abnormal or emergency situations, as required)	Applicable Environmental Legislation, Other Requirements and Guidance	Significance Rating	Action required / MITIGATION
Materials (quantity and type used)	1. Materials supplied or disposed of by contractors/suppliers	1. Damage to environment from poor practices by supplier	Environmental Management Act (2008)	M	1. Use suppliers/contractors that authorised by the local authority. they employ environmentally fri practices e.g at the quarry or whe dispose waste from the site.
Waste management	1. Generation of waste from construction process, 2. Considerations for waste management during operations of completed facility	1. Pollution from poorly managed waste. Lost opportunity to minimise/reuse/recycle waste, 2. Contamination from poorly managed medical waste	Local Government Act (2004) Public Health Act (2004)	H	1. Segregate waste- do not mix h waste such oil contaminated mat cement washings, medical waste domestic waste. Separate reusabl Decide good practice for a site ba UNOPS guideline on waste mana (GEM02), the health facility's pl to ESMF document.
Transport (transport / traffic plans)	Construction activities- movement of materials, personnel	Causing traffic congestion, reducing access of service providers, the public or medical teams		M	Good planning of Route and time movements coordination with Hospital mana
Emergency Plan (Is a project one required?) Who would be the principal agency?	Emergency situations arising during construction	Damage to property, flora, fauna, injuries to personnel		H	1. Prepare emergency preparedne evacuation, emergency numbers. awareness training, e.g. spill clea process, Including medical emer project team/contractors get injur showing signs of Ebola infection procedures through drills.

Issues to consider	ASPECT description	Potential IMPACT (under normal, abnormal or emergency situations, as required)	Applicable Environmental Legislation, Other Requirements and Guidance	Significance Rating	Action required / MITIGATION
Socio-Economic	1. Employing personnel directly or through contractors, stakeholder consultations. 2. Getting service providers and procuring materials.	1. Some members of the community may be side lined in employment, consultations, etc. 2. Local personnel, contractors and suppliers may be side lined.	UN gender policies,	M M	1. Apply UNOPS gender mainstrea principles 2. Encourage participation of local contractors and suppliers may be si to develop local capacity.
Other					