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THE REPUBLIC OF KIRIBATI

Ministry of Health & Medical Services

Health Services Strengthening Project
World Bank P176306

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

VERSION: 7th December 2021

EXECUTIVE SUMMARY

This Environmental and Social Management Framework (ESMF) sets out the principles, policies, and procedures for assessing and managing the environmental risks and impacts of the various components of the Kiribati Health System Strengthening Project (KHSSP) which is being proposed for World Bank funding. An ESMF is prepared instead of the usual Environmental and Social Impact Assessment (ESIA) because the detailed designs of the various components of this project will still be developed during project implementation. The project aims to improve equity and quality of health care in Kiribati and to provide immediate and effective response in case of an eligible crisis or emergency. It will have four (4) components, namely: (Component 1) Improving equitable access to health services in outer islands; (Component 2) Strengthening quality and range of services provided through hospitals; (Component 3) Project management enhancement, and (Component 4) a contingent emergency response component (CERC). The project will be implemented by the Ministry of Health and Medical Services (MHMS). A Project Management Unit (PMU) will be set up at the MHMS to manage the implementation of the project.

Project activities expected to pose ES risks and impacts

The project activities that are expected to pose environmental and social risks and impacts include: (i) the rebuilding of the KDH hospital; (ii) the installation of new equipment and facilities at the Betio District Hospital; (iii) the refurbishing of the various health clinics in the outer islands which may include provision of water and sanitation; (iv) the procurement and operation of Sea Ambulances; and (v) design and operation of new health care management systems, including infection prevention and health care waste management. Anticipated support for emergencies may also entail environmental and social risks. All the World Bank ES Standards are applicable to the project except ESS7 (Indigenous People), ESS8 (Cultural Heritage) and ESS9 (Financial Intermediaries).

General assessments of ES risks and impacts of project activities

The ESMF includes a cursory assessment of the environmental and social risks and potential impacts of the project activities given available information on the proposed activities and the baseline conditions of the country including the prevailing ES issues. It also identifies generic mitigation measures for each of the impacts. The main risks and impacts of the project activities include: (i) risk of infrastructure failure due to possible coastal flooding caused by cyclone activities or tsunami; (ii) risk of contamination of the environment due to improper disposal of healthcare waste; (iv) exposure of healthcare workers and communities to health and safety hazards of healthcare wastes; (v) risks of infection from COVID and other prevailing diseases; (vi) healthcare wastewater treatment system; (vii) risk of unexploded ordnance; and (viii) other construction/demolition-related impacts and risks such as: generation of dusts, noise, erosion and sedimentation, impacts to natural habitat for greenfield sites, including sourcing of embankment materials and aggregates, inadvertent damage to private properties and local infrastructure, and exposure of residents to construction site hazards. In addition, there is a possibility of involuntary land acquisition. The help address these risks and impacts, the following instruments were developed:

(a) ES Screening Form for Subprojects. This will help screen out ineligible and high risks activities.
(b) ESMP Matrix Template. This will facilitate environmental and social management planning for activities involving minor civil works
(c) Resettlement Policy Framework (RPF). The RPF will guide the preparation of Resettlement Plans in case of involuntary land acquisition.
(d) Stakeholder Engagement Plan (SEP). This will guide the consultation and engagement of the various stakeholders throughout the life cycle of the project.
(c) Labor Management Plan (LMP). The LMP will provide guidance to the projects and its contractors to comply with the requirements of the ESS2.

(e) Infection Prevention and Control Plan (IPCP). This will help the project manage the risk of disease infection among workers during the project implementation. However, a National IPCP will be developed under Component 2.
(f) Waste Management Guidelines. This will guide the project in formulating management measures for the liquid and solid wastes generated during construction and during operations of the health care facilities.
(g) Code of Environmental and Social Practice for Contractors (COESP-C). The COESP-C will guide the contractors in preparing their own Environmental and Social Management Plan.
(f) Change Archaeological Find Procedures - guides contractors in case of chance discovery of artefacts during excavations.
(g) UXO procedure - provides procedures in case of encounter with unexploded ordnance.

Procedures for assessing and managing ES risks and impacts of individual subprojects/activities

The policies and procedures were formulated based on the general assessment of project's ES risks and impacts and the country's legal frameworks of ES management. Essentially, the procedures consist of the following steps:

Step 1: Subproject definition or identification. This will define and delineate the subproject/activity to be assessed.
Step 2: ES Screening. Each Subproject shall undergo ES Screening to screen out ineligible components and as well as to determine the scope and level of the assessment to be required.
Step 3: Conduct of ES Assessment/Preparation of ES Instruments. Depending on the result of the screening, the subproject may be either required to undertake a full ESIA or to prepare only a simple ESMP matrix. A template of the ESMP Matrix has been prepared. Other requirements that apply such as Resettlement Plan shall also be prepared.
Step 4: Review and Disclosure of ES Instruments. All instruments shall be reviewed and approved by the KFSU ES Specialists. Instruments will then be submitted to the World Bank for review and clearance for disclosure. Final versions of ES instruments shall be disclosed in MHMS Website as well as in the concerned local government offices of the host communities.
Step 5: Procurement Due Diligence. The KFSU ES Specialists shall ensure that the aspects/requirements in the ESMPs and in other instruments that are the responsibility of the contractor are incorporated into bidding documents.
Step 6 - Implementation of Mitigation Measures.
Step 7 - Monitoring, Evaluation and Reporting. The implementation of the mitigation measures will be monitored by the PMU and ES Specialists of KFSU.

Implementation Arrangements

The project will appoint an ES Coordinator at the PMU to provide the management with a technical backstop and leadership in the implementation of this ESMF. The Kiribati Fiduciary Services Unit (KFSU) which is based within the Ministry of Finance and Economic Development (MFED) will provide the ES oversight. The KFSU has two ES Management Specialists and an International ES expert who also provide support to other projects. The PMU will also designate an ES Focal Person at each subproject site who is responsible for ensuring that mitigation measures are implemented on the ground.

Reporting requirements. The PMU Environmental ES Coordinator shall prepare quarterly monitoring and evaluation reports on the implementation of this ESMF which will include, the status of the ESMF implementation, issues and constraints encountered, grievances and their status; incidents/accidents. The quarterly reports shall be submitted to the KFSU for review and validation. Based on these quarterly reports,

the KFSU Environmental and Social Safeguards Specialist will prepare Semi-Annual Reports on overall status compliance with the applicable World Bank ES Standards requirements. The semi-annual reports will be submitted to the World Bank in time for its regular Implementation Support Missions.

Cost Estimate of ESMF Implementation

The cost of ESMF implementation is estimated at USD 213,000. This will include: (i) cost of training of PMU ES staff and sub-project focal persons on the ESMF; (ii) travel and accommodation of staff during the conduct of training, coordination meetings; (iii) site visits and inspections, including participation in the World Bank ISM; (iv) the hiring of consultants for the conduct of detailed ESIA of some subprojects, (v) monitoring and OSH audits; and (vi) the cost of implementation of the RPF and the SEP. The cost of the management measures which include design measures, will be embedded in the project development cost.

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
BTC	Betio Town Council
CDC	Centre for Disease Control and Prevention
CDSRC	Communicable Diseases Surveillance and Response Committee (MHMS)
CMS	Central Medical Store
CWMU	Chemical and Waste Management Unit (in ECD)
COVID-19	Coronavirus Disease 2019
DFAT	Department of Foreign Affairs and Trade (Australia)
ECD	Environment and Conservation Division (in MELAD)
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
ESCOP	Environmental and Social Code of Practice
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESHS	Environmental, Social, Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
FTCF	Fast Track COVID-19 Facility
GBV	Gender Based Violence
GIIP	Good International Industry Practice
GM	Grievance Mechanism
GoK	Government of Kiribati
HIES	Household Income and Expenditure Survey
HCWM	Health Care Waste Management
ICT	Information Communication Technology
IDA	International Development Association
IPC	Infection and Prevention Control
IPCP	Infection and Prevention Control Plan
IPF	Investment Project Financing
JICA	Japan International Cooperation Agency
JIMT	Joint Incident Management Team (for Pacific COVID-19 response)
KFSU	Kiribati Fiduciary Services Unit
KOITIIP	Kiribati Outer Islands Transport Infrastructure Investment Project
L&FS	Life and Fire Safety
LMP	Labour Management Procedure
M&E	Monitoring and Evaluation
MELAD	Ministry of Environment, Land and Agricultural Development
MFAT	Ministry of Foreign Affairs and Trade (New Zealand)
MoF	Ministry of Finance (formerly MFED)
MFED	Ministry of Finance and Economic Development (now MoF)
MHMS	Ministry of Health & Medical Services
MICTTD	Ministry of Information, Communication, Transport and Tourism Development
MISE	Ministry of Infrastructure and Sustainable Energy
MNCH	Maternal, New-born and Child Health

MRF	Materials Recovery Facility
NCD	Non-communicable Diseases
OHS	Occupational Health and Safety
PDO	Project Development Objectives
PEO	Principal Environment Officer
POM	Project Operational Manual
PPE	Personal Protective Equipment
SAPHE	Sanitation and Public Health and Environment Improvement Project
SEA	Sexual Exploitation and Abuse
SEP	Stakeholder Engagement Plan
SH	Sexual Harassment
SOP	Standard Operating Procedures
SPC	Pacific Community (formerly Secretariat of PC)
SPREP	South Pacific Regional Environment Programme
SPRP	COVID-19 Strategic Preparedness and Response Program
TCH	Tungaru Central Hospital
TUC	TeInainano Urban Council
UN	United Nations
UNICEF	United Nations Children's Fund
WASH	Water, sanitation and hygiene
WBG	World Bank Group
WHO	World Health Organization
WMP	Waste Management Plan

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1. BACKGROUND

The Government of Kiribati (GoK) is preparing a project entitled Health Systems Strengthening Project (HSSP) which is being considered for World Bank financing. As such the project will be subject to the World Bank's Environmental and Social Framework (ESF).

This Environmental and Social Management Framework (ESMF) sets out the principles, policies, and procedures for environmental and social protection that the GoK will employ in the context of the Project. The rationale of using an ESMF instead of project-specific environmental and social assessment and management plans, is that the exact locations of project activities, as well as the type and magnitude of the environmental and social impacts will not be known until the project is at an advanced stage of implementation.

The purpose of the ESMF is to guide the Ministry of Health and Medical Services (MHMS) and any Sub-component project Proponents on the environmental and social screening processes and subsequent assessment during implementation, including activity-specific plans in accordance with the World Bank ESF.

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

2. PROJECT DESCRIPTION

2.1 Project Development Objective

The Project Development Objective (PDO) is to improve equity and quality of health care in Kiribati and to provide immediate and effective response in case of an eligible crisis or emergency.

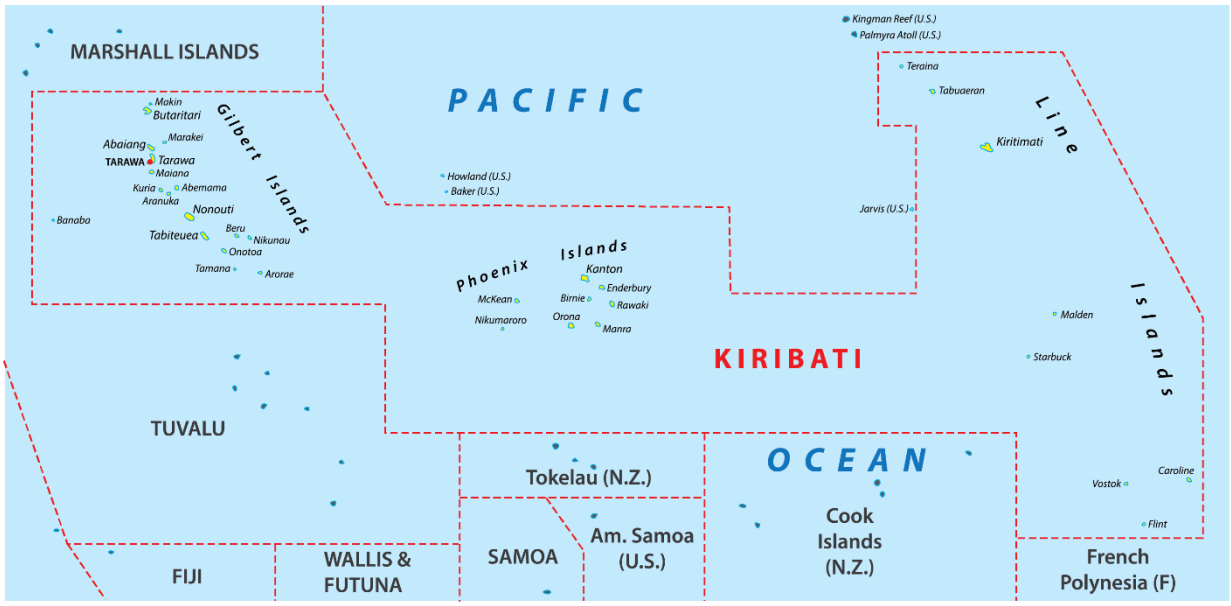

Figure 1. The territories of the Republic of Kiribati showing three groups of islands: Gilbert, Phoenix and Line Islands.

2.2 Project Components

The proposed project will support MHMS to implement elements of the NHSP. It will have four components, namely: (Component 1) Improving equitable access to health services in outer islands; (Component 2) Strengthening quality and range of services provided through hospitals; (Component 3) Project management enhancement, and (Component 4) a contingent emergency response component (CERC). These components, and the activities which are described below are preliminary, and will be refined as project preparation proceeds. Project financing for all goods and services will take into consideration existing, current, and planned investments by other external partners; any health infrastructure development will be carried out considering environmental and social risks assessments, as well as climate change considerations.

Component 1: Improving equitable access to health services in outer islands. The scattered geographical distribution of Kiribati poses major challenges to accessing health services and distribution of medical supplies to outer islands. The physical layout of the country, and its current health service provision, often results in a need to conduct medevac missions (dispatched from Tungaru Central Hospital (TCH) located on Tarawa Island), which are affected due to unreliable air and sea transport. This often leads to delays in access to timely emergency and essential life-saving services which result in poor health outcomes. An identified need is for better, more regular, and timely health support to address known communicable diseases and NCDs prevalent on the outer islands, and expand prevention efforts, both of which are almost entirely dependent on the public sector. Financing under this component would be aimed at: (a) improving referral services through provision of two sea ambulances with appropriate critical medical and communications equipment to provide integrated medical outreach programs to outer islands; (b) expanding outer island focused preventive programs designed to improve the nutritional status of mothers, new-borns, children during the first 1,000 days, and for children under 5 years of age, building on existing government and external partner programs, including supplies of key micronutrients, and expanding information education and communications; (c) improving outer island health providers skills through in-service training, particularly for the nurses and midwives in a range of MNCH high priority issues; and, (d) conducting operational research to inform policies towards innovative outreach and referral systems that fit Kiribati's geographical and infrastructure context.

Component 2: Strengthening quality and range of services provided through hospitals. The MHMS recognizes that, to provide satisfactory health care for all of Kiribati, it requires more effective public sector health facilities, in particular hospitals and allied services capabilities, and other elements in their health pyramid. MHMS identified the following core needs for support under the proposed project: (a) enhancement of health infrastructure, including: (i) rebuilding and equipping the Kiritimati district hospital with climate resilient design; (ii) equipping the new Betio (South Tawara) Hospital; equipping, improving, and modernizing pharmaceutical, laboratory and radiology diagnostic services; (iii) providing essential equipment for health centres and health clinics and refurbishing, based on a survey of their needs; (iv) supporting improved and well-equipped hazardous waste management, along with bolstering MHMS' efforts related to IPC implementation; (v) emergency ambulance; and (vi) establishing a mobile blood donor unit; (b) enhancement of the health information system (i.e., collection, storage, and connectivity) building on ongoing efforts; (c) provision of training to technical specialists (i.e., laboratory, radiology, biomedical, pharmacy and information technology), and allied health workers to better utilize aspects supported under the proposed project, based on a training needs assessment; (d) introduction of Geographical Information System to map out and support a syndromic surveillance system for early detection of outbreaks and early public health response which will assist in strengthening core elements of MHMS (i.e., human resource management as well as monitoring).

Component 3: Project management enhancement. This component will, based on an assessment of MHMS' list of priorities, provide support to project management. It will finance additional requirements (i.e., in aspects of safeguards, monitoring and evaluation-M&E, operational costs and others based on the activities which will ultimately be supported) for the World Bank supported COVID-19 project management unit (PMU) in MHMS, which will support this project's management.

Component 4: Contingent emergency response component (CERC). The objective of this component is to improve the GOK's response capacity in the event of an emergency, following the procedures governed by OP/BP 8.00 (rapid response to crisis and emergencies). The component would support a rapid response to a request for urgent assistance in respect of an event that has caused, or is likely to imminently cause, a major adverse economic and/or social impact to Kiribati associated with a natural or man-made crisis or disaster. In the event of an emergency, financial support could be mobilized by reallocation of funds from other Components to support expenditures on a positive list of goods and/or specific works and services required for emergency recovery. A CERC operational manual, governing implementation arrangements for this component, will be prepared with support under the project.

2.3 Project Area and Beneficiaries

The project is national in scope but with a focus on strengthening health systems and improving services in the outer islands. The primary beneficiary of the project is the general population who seek health care services in public health facilities, particularly the vulnerable groups, including maternal, new-born, infant, and adolescents.

2.4 Typologies of Activities and Subproject

Based on the description of the project components and subcomponents, the project may involve the following types of activities:

1. *Construction and/or demolition*. These activities are the actual construction of buildings, or additional structure within an existing building such as the rebuilding of the of the KDH and access road under Component 2(a)(i). The refurbishment of existing facilities may also involve construction of new structures. Component 2(a)(iii) mentions about refurbishing health centers or health clinics based on

a survey of their needs. Land acquisition may be required for some construction activities under the project. For example, a new access road may need to be constructed as part of the rebuilding of the Kiritimati District Hospital (KDH) under Component 2(a)(i). Existing structure that will be rebuilt or refurbished would naturally have to be demolished or rid of old ruins and materials before construction can be undertaken. The rebuilding of the KDH would likely include demolition works which may generate certain kinds of wastes and emissions such as dust and fine particulate matter (PM).

3. *Equipping the new, newly refurbished, or existing facility*. This activity would involve procurement/acquisition, installation/repair, and operations and maintenance of equipment. For example, Component 2(a)(ii) mentions about the equipping, improving, and modernizing pharmaceutical, laboratory and radiology diagnostic services of the new District Betio Hospital. These also include the (i) the acquisition and operation of two sea ambulances as part of the improved referral services (assumed to be based at Tungaru Central Hospital facility); the emergency ambulance as part of Component 1(a); new Laboratory; Radiology Units; mobile blood donor unit and others.

4. *Design and operation of new management systems*. This includes the development and/or launching of new referral service, preventive programs, infection prevention (IPC) system, and the development and setting up of health care waste management (HCWM) system or the development and setting up of new disease surveillance systems. For example, Component 2(d) mentions about introduction of GIS to support the syndromic surveillance system.

6. *Capacity building (hiring and training)*. This includes the provision of training for technical specialists for the newly constructed/refurbished facility (e.g., laboratory technicians, medical technologists, pharmacists, etc.), in-service training, particularly for the nurses and midwives.

7. *Research and policy support*. This includes the conduct of studies, collection of information, and maintenance of databases. There are at least two such activities: (i) conducting operational research to inform policies towards innovative outreach and referral systems that fit Kiribati's geographical and infrastructure context (under Component 1); and (ii) enhancement of the health information system (under Component 2).

8. *Emergency response to natural calamities.* The most likely natural calamity that could hit Kiribati is a storm surge resulting from a tropical cyclone. Based on experience with TC Pam, the likely impacts will include coastal flooding and destruction of health care facilities and water and sanitation systems. CERCs have also been used to finance the response to the COVID-19 pandemic in other Pacific countries. Under the CERC, the likely activities to be funded would include emergency procurement, minor civil works, and repairs of priority infrastructure such as health centres and sanitation facilities.

For the purpose of this ESMF, the basic unit of any ES Assessment and Management is the Subproject. A subproject is defined as a single activity or set of related activities that are pursued to achieve a common objective for a particular site, or for the entire country as in the case of country-wide management systems. Thus, examples of subprojects under KHSSP are:

1. The rebuilding and equipping of the Kiritimati District Hospital
2. The equipping of the new Betio District Hospital in South Tarawa
3. The development and implementation of Infection Prevention and Control (IPC) system
4. The development and implementation of the Heath Care Waste Management (HCWM) system.
5. Health Center Refurbishment (One specific health center can be considered one subproject)
6. Procurement and operations of sea ambulances
7. Improvement of Syndromic Surveillance System with GIS

8. etc.

3. POLICY AND LEGAL FRAMEWORK

3.1 Country Legal Framework

3.1.1 The Kiribati's EIA System

The Environment Act 1999. The Environment Act 1999 (as amended 2007) is the primary environmental legislation that provides for the protection, improvement, and conservation of the Republic of Kiribati. The Act is supported by the Environmental (General) Regulations of 2017 (which repeal previous regulations to the act). Under Part IV of the Environment (Amendment) Act 2007 an Environment License is required for all activities that are deemed environmentally significant, as listed under the Schedule of Environmentally Significant Activities.

The 1999 Act established the Environment and Conservation Division (ECD) within the Ministry of Environment, Land and Agricultural Development (MELAD) as the line Division with the mandate for environmental protection, resource conservation and sustainable development. The ECD must respond to all environmental safeguard issues arising in Kiribati. This includes advising project proponents on environment license requirements including need for environmental impact assessment (EIA), inspecting environmental violations and compliance issues, and providing enforcement to correct non-compliance. The ECD must also deliver environmental communication, education and public awareness on Kiribati's environment protection and management and protection requirements at the local, national, regional and international level.

The Environment Act provides for the protection, restoration, and enhancement of Kiribati's natural, social and cultural environment with the following objectives:

a) to provide for and establish integrated systems of development control, EIA and pollution control;
b) to prevent, control and monitor pollution
c) to reduce risks to human health and prevent the degradation of the environment by all practical means, including the following:
    i. regulating the discharge of pollutants to the air, water, or land
    ii. regulating the transport, collection, treatment, storage, and disposal of wastes
    iii. promoting recycling, re-use, reduction, composting and recovery of materials in an economically viable manner; and
    iv. to comply with and give effect to regional and international conventions and obligations relating to the environment.
d) protecting and conserving the natural resources threatened by human activities, particularly those resources of national and ecological significance as may be classified under the categories of terrestrial vegetation, coral, fish and marine life.

Environment (General) Regulations 2017). The Environment (General) Regulations 2017 complement the Environment Act and provide the requirements for the project applicant to obtain an environment license. The Regulations set out requirements for the EIA report of the development. The Environmentally significant activities requiring EIA according to their environmental significance are listed in the Schedule to the Regulations (Annex XI). Activities that are considered to create a significant environmental impact require application for environmental license. Some activities further require an EIA report.

Environment licenses are required from MELAD for all activities that are deemed environmentally significant. When a proponent wishes to undertake a project, the Schedule of Environmentally Significant Activities (ESA) should be consulted to determine if the activity might trigger an environmental assessment.

Any construction work designed to enable an ESA also requires an environment License. If the type of work is not found in the Schedule and if it does not involve permanent loss of land or coastline, or deal with any polluting materials, no further environmental considerations are needed. However, if it does match one or more of the activities on the list a license application must be completed and submitted to ECD.

Environmental License Application Process. The Environment Act is complemented by the Environment (General) Regulations 2017. The overall process assigns primary responsibility for undertaking environmental assessment of projects to the project developer. The Ministry of Environment, Lands and Agricultural Development (MELAD), under the direction of the Principal Environment Officer (PEO), is responsible for review and approval of environmental assessment reports, prescription of requirements for publication and disclosure environmental assessment reports, issuance of environment licenses, and prescription of any conditions to the licenses that require the applicant for the environment license to submit an application to the Principal Environment Officer (PEO).

On consideration of the application, the PEO determines whether to issue an environmental license or require an EIA, or to refuse the application. The required contents of the environmental assessment report are set out in the Environment (General) Regulations, 2017. During preparation of the EIA report (EIA) the applicant is required to hold consultations with stakeholders such as adjacent landowners and other interested parties.

The completed EIA is reviewed by the PEO who determines the appropriate form of its publication and disclosure to interested parties, and the deadline for receipt of comments. Comments received must be shown to the applicant and taken into consideration in finalizing the EIA.

After reviewing the final EIA, the PEO decides whether to grant a license. The decision to grant the license rests with the PEO according to the principles of sustainable development and in line with any of Kiribati's binding international obligations or agreements and any other prescribed requirements. Licenses may be subject to reasonable conditions made according to the principles of sustainable development, which may include duration, location, prescribed methods, emission limits, monitoring and reporting requirements, lodgement of bonds and payment of fees, preparation of plans and specific mitigation.

If there are no objections within the 30-day period, the license is issued, construction can begin, and the assessment process is essentially complete. The ECD is then responsible to monitor the activity's progress to ensure compliance with the license conditions. The environmental license application process is outlined in **Error! Reference source not found.**.Figure 2 below.

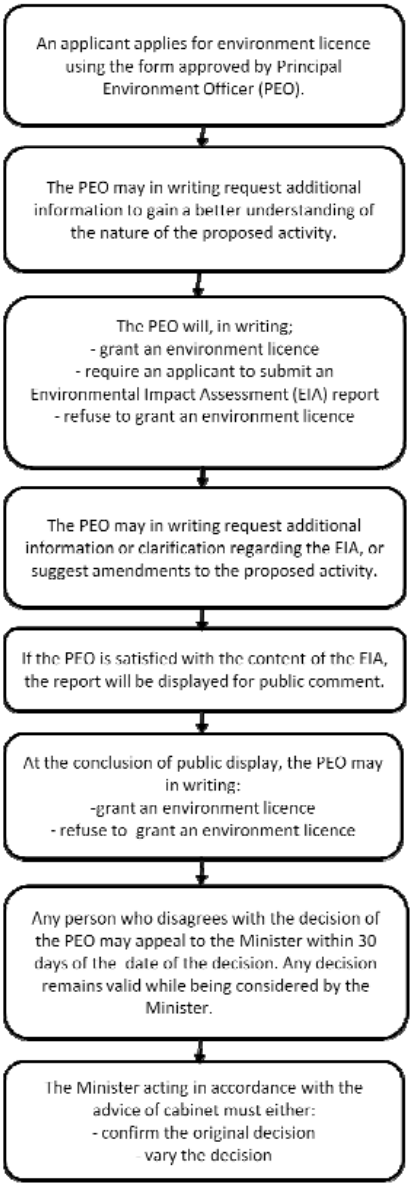

Figure 2. The Kiribati Environmental License Application Process

3.1.2 Laws on Labor and Working Conditions

Employment and Industrial Relations Code Act (2015). The Employment and Industrial Relations Code Act 2015 is a comprehensive legislation that addresses the rights of workers including freedom of assembly and collective bargaining, equal opportunity and non-discrimination, minimum age of employment, and the prohibition of child labour, and worker grievance mechanism. The legislation was promulgated to modernize the country's labour law and align it with the ILO conventions which Kiribati has ratified. Kiribati has ratified 11 of the ILO conventions including all eight (8) fundamental ILO conventions (i.e., Forced Labour Convention, Freedom of Association and Protection of the Right to Organise Convention, Right to Organise and Collective Bargaining Convention, Equal Remuneration Convention, Abolition of Forced Labour Convention, Discrimination of Employment and Occupation Convention, Minimum Age Convention, and Worst Forms of Child Labour Convention).

Occupational Health and Safety (OSH) Act (2015). The OSH Act mandates employers to provide and maintain, so far as practicable, a working environment for employees and site visitors that is safe and without risks to health. It empowers the Minister of Employment and Human Resources Development to approve a Code of Practice on OHS and provides for the appointment of inspectors to enforce the OHS standards. The law applies to all workplaces, except where a person is employed by his or her own immediate family, in (a) constructing, repairing, or modifying the family's house, chattels or vehicles; or in (b) growing, harvesting, catching, fishing or otherwise providing food for the family's consumption, provided that no other person is engaged or employed to carry out such tasks. The Act intends to achieve the intended purposes inherent in the ILO Occupational Safety and Health Convention 1981, the 2002 Protocol on Occupational Safety and Health, and the Promotional Framework for Occupational Safety and Health Convention 2008 (FAO Natlex).

3.1.3 Pollution Control and Waste Management Regulations

The Environment Act 1999 (as amended 2007) Part IV covers control of pollution including waste. One of the objectives of the Act is "to prevent, control and monitor pollution". Section 31 states that: *"No person shall cause or allow waste or pollutant to be discharged in any position, place, land, beach, sea, lagoon or foreshore from which the waste or pollutant is likely to result in pollution or in the unreasonable interference with health, welfare, convenience, comfort or amenity of any person"*.
For Kiribati waste is defined in the Act in the definition clause as "waste" includes matter -

1. whether liquid, solid, gaseous, or radioactive, whether toxic or not, which is discharged into the environment; or
2. which is the by-product of any process activity or development with no apparent value or beneficial function; or
3. human excrement or faeces; or
4. animal excrement or remains; or
5. which is prescribed by regulation to be waste.

The 2007 amendments now have provisions on pollution minimization and prevention, amongst others, the need to control littering, dumping and a duty to clean-up any discharge of waste or other substances, as practiced under the "Polluter Pay Principle". Six streams of wastes are described in regulations under the Act: household domestic waste; building and demolition waste; hazardous waste; clinical waste; quarantine waste; ballast water; and waste oil. Threshold levels and standards of pollution are also set out in the regulations[1].

Overall legal, policy, and planning for solid waste management is a national government responsibility. The Ministry of Environment, Lands and Agriculture Development (MELAD), and its ECD, is responsible for enforcing the Environment Act 1999 (amended in 2007). The Ministry had also formulated the National Solid Waste Management Strategy in 2007, with the assistance of SPREP and prepared the Kiribati Integrated Environment Policy in 2012[2].

The Chemical and Waste Management Unit (CWMU) situated in the ECD is responsible for monitoring pollution and improving solid and hazardous waste management. The CWMU undertake enforcement activities under the Environment Act as well as other activities such as providing technical support to Island Councils for waste management improvement and public awareness raising programs.

Special Fund (Waste Material Recovery) Act 2004.This Act set up a framework that allows the Minister of the Environment to charge a deposit on materials when they are imported. The Act set up a Special Fund at the Ministry of Finance into which the deposits are paid and held whilst awaiting refund. The Act also allows for the Minister to make regulations determining how the deposits are paid back to the people when the

[1] ECD & MELAD, 2007. Draft National Solid Waste Management Strategy
[2] SPREP, 2014. Kiribati (South Tarawa) Country Snapshot

materials are returned for recycling. The Act allows the Special Fund to use any excess funds that accrue for other Waste Management purposes.[3]

Special Fund (Waste Material Recovery) Regulations 2005. This regulation defines the procedure for paying deposits when materials are imported and sets out how the refunds are paid to people when material is returned for recycling. The Regulations allow for the Government to enter into an agreement with a private operator to manage the deposits where materials are returned for recycling.

3.1.4 Laws on Community Health and Safety

Building Act, 2006 (No. 1 of 2006). This law regulates the construction industry with respect to building codes, authorizations etc. It provides that all building work must be carried out in accordance with the Building Code. The law also provides for the approval of building plans as well as inspection and enforcement.

The National Building Code of Kiribati (NBCK, 2017). The NBCK provides for standards in building structural and spatial designs, including standards for public buildings on fire resistance, minimum water storage capacity requirements, access and egress, minimum space requirements, minimum elevation of building floors from known flood levels, among others. It also contains specific standards for health care buildings. The Quality Control and Inspection Unit of the Ministry of Infrastructure & Sustainable Energy (MISE) is mandated to enforce the NBCK standards.

3.1.5 Laws on Land Acquisition by Government

State Acquisition of Lands Ordinance 1954 (rev 1979). Section 5 empowers the Minister to acquire "...on behalf of the Republic, any lands required for any public purpose, paying such consideration or compensation as may be agreed upon or determined under the provisions of this Ordinance. Acquisition of land under subsection (1) of this section includes: (a) the acquisition of the freehold; (b) the surrender of a lease, sublease, or license; and (c) the acquisition for a term of years as the Minister may think proper. Definitions of 'public purpose' include (f) obtaining of control over land contiguous to a port; and (g) the purposes connected with the construction, maintenance, or improvement of a highway; and (h) and other purpose declared to be a public purpose.

In determining the amount of compensation to be awarded for land acquired under this Ordinance; (a) the High Court shall take into consideration; (i) the market value of the land at the date of the notice of intention to take such land; and (ii) the damage sustained by the person interested by reason of the taking of any standing crops or trees which may be on the land at the time of taking possession thereof; and (iii) the damage, if any, sustained by the person interested, at the time of taking possession of the and, by reason of severing such land from his other land; and (iv) the damage, if any, sustained by the person interested, at the time of taking possession of the land, by reason of the acquisition injuriously affecting his other property, movable or immovable, in any other manner, or his earnings; (v) if, in consequence of the acquisition of the land, the person interested is compelled to change his residence or place of business, the reasonable expenses, if any, incidental to such change.

3.1.6 Biodiversity and Sustainable Management of Forest and Fisheries

Wildlife Conservation Ordinance (1977). The Wildlife Conservation Ordinance, Chapter 100, revised edition 1977, provides legal protection to Kiribati's wildlife, under the responsibility of the Ministry of

[3] SPREP, 2006. Improvement of Waste Management on Kiribati: A Case Study

Environment, Lands and Agricultural Development. The Wildlife Conservation Ordinance (1977) allows the Minister to declare areas as wildlife sanctuaries and protection of specific animal and bird species. Within a wildlife sanctuary no person shall hunt, kill, or capture any bird or other animal (other than a fish) or search for, take or willfully destroy, break, or damage the eggs or nest of any bird or other animal. "Closed areas" are wildlife sanctuary areas which are only accessible by license holders, wildlife wardens and public officers.

MELAD are also responsible for administering the Biosecurity Act 2011 which controls the movement of plants and animals and their products to prevent the establishment and spread of animal and plant pests and diseases that can harm human health and the agricultural economy of a country. The Biosecurity Act 2011 establishes a regime to control the import and export of regulated pests and diseases (Parts 2, 3, 4 and 5). The biosecurity functions of the Government are set out in section 6. The key administrative feature is the provision in Part 10 for the designation of a Director of Biosecurity and biosecurity officers for Kiribati.

Land put aside for reserves has three main pieces of legislation. The Recreational Reserves Act 1996 allows for land owned or leased by the Government to be reserved for recreational purposes for the use and enjoyment of the people of Kiribati. The Prohibited Areas Ordinance 1957 provides for certain islands and their territorial waters to be prohibited areas, set aside for conservation purposes. The Closed Districts Act 1990 allows for parts of islands to be declared for conservation purposes. A summary of the main relevant GOK laws is presented in Annex 3.

Environment Act 1999. One of the objectives of Environment Act is to protect from human activities resources of ecological significance as may be classified under the categories of terrestrial vegetation, coral, fish, and marine life.

3.2 The World Bank ESF

3.2.1 World Bank ES Standards

The World Bank has 10 Environmental and Social Standards (ESS) under its new Environmental Management Framework (ESF). Initial assessment of the project indicates that all but three standards will apply to the project which are also confirmed in this ESMF. The table below provides a summary of the initial assessment. The applicability of all the ESSs will again be confirmed for each subproject/activity through detailed screening and assessment of individual activities.

Table 1. Applicable World Bank Standards

Environmental & Social Standard	Applicability	Description
ESS1 Assessment and Management of Environmental and Social Risks and Impacts	Applicable	The project is expected to result in positive environmental and social impacts as it seeks to strengthen Kiribati's health system including investments into healthcare waste and IPC management infrastructure and capacity building. However, project activities also present environmental, social, health and safety risks for the project workforce and communities and the environment such as poor management of healthcare waste, risks and impacts from construction activities (e.g. generation of noise and dust and through materials sourcing), the consumption of finite resources (e.g. energy and water), resettlement, harm to community members from inappropriate or misused medical equipment, marginalized, vulnerable or

Environmental & Social Standard	Applicability	Description
		remote social groups being unable to access facilities and SEA/SH. This ESMF will address the requirements of the ESS1 standard.
ESS2 Labour and Working Conditions	Applicable	This standard is applicable to the project. The project will have all four categories of workers/employees viz.: direct workers, contract workers, community workers and primary suppliers. A Labor Management Procedure (LMP) has been prepared to address the requirement of this ESS2.
ESS3 Resource Efficiency and Pollution Prevention and Management	Applicable	This standard is relevant to the project. The project will likely generate construction-related emissions, effluents, and solid wastes, potentially including hazardous materials during construction. During the implementation of the various health care activities, the project will also generate various types of health care wastes which may contaminate the environment, including wastes from the operation of the rebuilt and/or refurbished hospitals, the operation of laboratories, radiology services, and sea ambulances. Moreover, the rebuild and operation of the new Kiritimati Hospital will use finite resources such as construction materials, although they are not expected to be a large.
ESS4 Community Health and Safety	Applicable	The Project will finance and operate two sea ambulances to provide integrated medical outreach programs to the outer islands hence maritime safety is a risk that must be addressed. The improper handling, storage and disposal of healthcare waste will pose a risk to both community members and other stakeholders such as hospital staff. These risks have been addressed above under ESS3. Construction and demolition activities pose a risk to nearby residents through increased noise, dust and traffic and the incorrect disposal of hazardous materials. During the operations, patients and medical staff are exposed to the hazards of possible misuse of, poor quality, and/or poorly managed medical equipment, materials and services include risks to patients and staff from poorly managed equipment, e.g., misuse of radiography equipment, poor storage of pharmaceuticals, incorrectly performed testing, issues with information management, etc. Some project activities may give rise to the risk of GBV (in particular, SEA/SH risks) for health care/community health workers operating in remote areas. Emergency preparedness and response will be addressed in the IPC&WMP noting that emergency response plans will be developed for events such as spillage, occupational exposure to infectious materials or radiation, accidental releases of infectious or hazardous substances to the environment, medical equipment failure, failure of solid waste and wastewater treatment facilities, power outages, and fire in Project funded facilities.

Environmental & Social Standard	Applicability	Description
ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Applicable	The civil works for the Hospital Sub-component to be financed by the project may result in physical or (and potentially economic) displacement. There are currently government residential houses on the proposed site and a Maneaba (customary/community meeting structure) that may need to be relocated to a possible adjacent site. The suitability of the adjacent relocation site has not been assessed or confirmed. Although the proposed site is thought to be government land, this has not been confirmed, and thus this hospital component may also require the acquisition of private land. The hospital site is likely to include palm trees, potentially other food bearing trees and plantings and/or livestock rearing sites that may need to be compensated in accordance with the requirements of ESS5. There may also be rezoning of the Kiritimati land use plan required to permit the construction of a hospital on this site, with associated consideration of site suitability and impact on adjacent land uses. The hospital sub-component is proposed to include upgrading of an access road which passes through an adjacent residential area, to better accommodate emergency vehicles. It is therefore possible that residential land acquisition will be required for this component. Given several of these key details of the project are still to be confirmed, the hospital sub-component of the project will therefore require a Resettlement Policy Framework to be integrated into the ESMF and prepared for Appraisal. A full or abbreviated resettlement plan (depending on the inclusion and scale of the road upgrade) will be prepared during implementation when the design and footprint of the hospital and access road are confirmed. The requirement and guidelines to prepare the site-specific resettlement plans will be specified in the RPF and reflected in the Preliminary ESIA/ESMP and ESCP. The RPF will also cover the potential resettlement impact of the proposed waste management facilities, if new sites are required outside existing health facilities or government owned land.
ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources	Applicable	While construction activities/civil works will take place on already built-up or in previously disturbed lands, the sourcing of embankment and aggregates may be located in sensitive areas.
ESS7 Indigenous People	Not applicable	This standard is deemed not applicable to this project as there are no known groups in the Kiribati that meet the criteria for Indigenous People in ESS7. Most people in Kiribati (96.2%) belong to the i-Kiribati ethnic group while the remaining 4.8% have mixed ethnic origins or recent migrants from other

Environmental & Social Standard	Applicability	Description
		countries. The project will benefit the entire Kiribati population.
ESS8 Cultural Heritage	Not applicable	The project is not expected to affect any cultural heritage site. The ES Screening procedure will further assess cultural heritage risks of project activities. In case of chance discovery of archaeological sites or objects, a Chance Find Procedure has been developed as part of this ESMF (Annex IX).
ESS9 Financial Intermediation	Not applicable	The project does not include any financial intermediation operation.
ESS10 Stakeholder Engagement and Information Disclosure	Applicable	ESS10 applies to this project. The project design and planning, including the preparation of this ESMF, will benefit from stakeholder inputs and feedbacks. There is also a need to address any grievances from people affected by the project.

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

The following EHS guidelines are relevant to the project and have been used to guide the development of the ESCOP, WMP, IPCP, and LMP:

- General EHS Guidelines: Environmental
- General EHS Guidelines: Occupational Health and Safety.
- General EHS Guidelines: Construction and Demolition
- EHS Guidelines for Health Care Facility
- EHS Guidelines for Shipping

3.2.3 World Bank Response to COVID-19.

The World Bank Group (WBG) has developed the following guidance material in response to COVID-19 outbreak:

- Guideline for the preparation of a Contingency Plan for Project Sites.
- Technical Note: Public Consultations and Stakeholder Engagement to be applied to projects under implementation and those under preparation.
- Technical Note: Use of Military Forces to Assist in COVID-19 Operations Suggestions on how to Mitigate Risks.
- Technical Note on SEA/H for HNP COVID Response Operations.

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

3.3 Relevant International and Regional Agreements and Conventions

Kiribati is a party to the following relevant regional and international agreements:

***Basel Convention*.** The Basel Convention is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs). This convention entered into force in Kiribati in 2000.

London Convention and Protocol. The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972, commonly called the "London Convention", is an agreement to control pollution of the sea by dumping. Its objective is to promote the effective control of all sources of marine pollution and to take all practicable steps to prevent pollution of the sea by dumping of wastes and other matter. In 1996, the "London Protocol" was agreed to further modernize the Convention and, eventually, replace it. Under the Protocol all dumping is prohibited, except for possibly acceptable wastes on the so-called "reverse list". The Protocol entered into force on 24 March 2006 and there are currently 53 Parties to the Protocol, including Kiribati.

Pacific Regional Solid Waste Management Strategy 2010-2015. Kiribati was one of several Pacific island countries to adopt the Pacific Regional Solid Waste Management Strategy, initiated by SPREP, and adopted by member countries in 2009.

Stockholm Convention for Persistent Organic Pollutants. The Stockholm Convention on Persistent Organic Pollutants is an international environmental treaty, signed in 2001 and effective from May 2004, that aims to eliminate or restrict the production and use of persistent organic pollutants (POPs). This convention entered into force in Kiribati in 2004.

Waigani Convention on Hazardous Waste. The 1995 Waigani Convention is a treaty that bans the exporting of hazardous or radioactive waste to Pacific Islands Forum countries and prohibits Forum island countries from importing such waste. The convention has been ratified by Kiribati and entered into force in 2001.

3.4 Relevant Good International Industry Practice (GIIP)

Relevant Good International Industry Practice (GIIP) such as WHO technical guidance have been developed for addressing COVID-19. These technical guidance documents are evolving, and they are being updated as new information becomes available. The guidance has been considered during the preparation of this ESMF and supporting documents. WHO resources include technical guidance on: (i) laboratory biosafety, (ii) infection prevention and control, (iii) rights, roles and responsibilities of health workers, including key considerations for occupational safety and health, (iv) water, sanitation, hygiene and waste management, (v) quarantine of individuals, (vi) rational use of PPE, (vii) oxygen sources and distribution for COVID-19 treatment centres, (viii) Surveillance and case definitions (ix) Risk communication and community engagement

WHO Guidelines for COVID-19 relevant to this project are summarized in Table 4. Additional guidance is also listed in Annex VII.

Table 2. WHO Guidelines for COVID-19

WHO Guideline	Content
Critical preparedness readiness and response actions COVID-10 2020-03-22_FINAL-eng	Update to the interim guidance document. This version provides updated links to WHO guidance materials and provides the full list of WHO technical guidance available for COVID-19 and provides updated recommendations in the table.
WHO-2019-nCov-Hand_Hygiene_Stations-2020.1-eng	Hand hygiene is the most effective single measure to reduce the spread of infections through multimodal strategies.
WHO-2019-nCov-IPC_Masks-2020.3-eng	It is possible that people infected with COVID-19 could transmit the virus before symptoms develop. It is important to recognize that pre-symptomatic transmission still requires the virus to be spread via infectious droplets or through touching contaminated surfaces.

WHO Guideline	Content
WHO-2019-nCoV-IPC_WASH-2020.2-eng	Frequent and proper hand hygiene is one of the most important measures that can be used to prevent infection with the COVID- 19 virus. WASH practitioners should work to enable more frequent and regular hand hygiene by improving facilities and using proven behaviour-change techniques.
WHO-2019-nCoV-IPC-2020.3-eng	Guidance on infection prevention and control (IPC) strategies for use when COVID-19 is suspected.
WHO-2019-nCoV-IPCPPE_use-2020.2-eng	Summarizes WHO's recommendations for the rational use of personal protective equipment (PPE) in health care and community settings, as well as during the handling of cargo.

3.5 Key Gaps and Challenges in Kiribati's Frameworks with Respect to WB ESSs

The relevant gaps and challenges of Kiribati's legal frameworks relating to the applicable WB ESSs, are listed in Table 3 below. Key gaps include the scope of the ES Assessment, the lack solid waste management regulations, the lack of hazardous waste management regulation, the lack of provisions for resettlement of people that might be displaced by government land acquisition. The labour and OHS laws are generally aligned with WB and international standards but enforcement and capacity for compliance remain weak.

Table 3. Gaps and challenges in Kiribati's legal framework with respect to the relevant WB ESS

Relevant WB ESS	Key Country Legislation	Relevant Gaps and Challenges
ESS1: Assessment and Management of Risks and Impacts	The Environmental Act 1999 Environment Regulations 2017	The scope of the assessment (IEE/EIA/ESIA) under the country system does not cover all WB ESS issues.
ESS2: Labor and Working Conditions	Employment and Industrial Relations Code Act 2015 Occupational Health and Safety Act 2015	The laws are aligned with international standards, but compliance and enforcement remain weak.
ESS3: Resource Efficiency and Pollution Control	Environment Act 1999	Compliance at the local levels is weak due to lack of capacity and resources. Enforcement of the law is also weak. There is no national legislation on solid waste management. Management of solid wastes currently relies on foreign funded programs.
ESS4: Community Health and Safety	The Building Act 2006 and the National Building Code of Kiribati 2017 Environment Act 1999	There is no legislation on hazardous waste management. The Environment Act is focused only on control, and the management of the hazardous waste have largely relied on foreign funded programs.
ESS5: Land Acquisition, Land Use Restriction, and Involuntary Resettlement	State Acquisition of Lands Ordinance 1954 (rev 1979).	The law only provides for compensation of land and assets on land and land improvements. There is no provision for resettlement of affected people in case of

Relevant WB ESS	Key Country Legislation	Relevant Gaps and Challenges
		economic (i.e., loss of livelihood) or physical displacement (i.e., loss of home).
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Wildlife Conservation Ordinance (1977) Biosecurity Act Environment Act (1999)	The laws do not distinguish between natural, modified, and critical habitats and do not provide for possibility of offset.

4. BASELINE ENVIRONMENTAL AND SOCIAL CONDITIONS

4.1 Environmental Baseline

4.1.1 Physical Profile

Kiribati is a low-lying country consisting of a total of 33 atolls of the three island groups in Central Pacific: Gilbert Islands, Pheonix Islands and Line Islands. The three island groups span of nearly 4,000 km from east to west, and more than 2,000 km from north to south. Most of the islands are less than 2 km wide, and no higher than 6 m above sea level. The country has a total land area of 811 sq km.

Prevailing winds. Like all islands in Kiribati, Abaiang, Beru, Nonouti and Tabiteuea South are in the direct path of the easterly trade wind that shifts northward and southward at different times of the year. Between December to March Kiritimati islands experience the northern trade wind while the south-east trade wind comes in between June and September (PACCSAP 2014).

Climate. The average annual rainfall is extremely variable due to an El Nino-Southern Oscillation (ENSO) (ICCAI 2011). Higher than average rainfalls are experienced during El Nino events. These events are natural climate patterns that occur across the tropical Pacific Ocean and world weather. There are two extreme phases of ENSO: El Nino and La Nina. There is also a neutral phase. Across Kiribati, El Nino events tend to bring wetter, warmer conditions than normal. La Nina is characterized by dry periods that often result in severe droughts if these dry periods are prolonged especially in the southern islands of the Gilbert group including Nonouti, Tabiteuea South and Beru. Cyclones rarely hit Kiribati however storm surges are experienced frequently, often causing extensive flooding and strong winds.

4.1.2 Climate Change and Natural Hazards

4.1.2.1 Climate Change

It is widely recognized that Pacific Island Nations are among the world's most physically and economically vulnerable to climate change and extreme weather events and Kiribati is one of the most vulnerable countries in the world. Based on the Climate Risk and Vulnerability Analysis (CRVA) conducted by ADB for Kiribati's Outer Islands Transport Infrastructure Investment Project, Kiribati is likely to experience more inundation and saltwater intrusion due to continuing sea level rise and increased frequency of extreme storm events and given the fact that most of the atolls are just 1.8 meters above sea level. Its marine resources are also at risk due to ocean acidification which results from increase in sea surface temperature (MITTD and MISE, 2020).

Kiribati's annual mean surface air temperature and sea surface temperature are expected to continue to rise. Sea surface temperatures locally have risen gradually since the 1970s by approximately 0.15°C per decade and there is high confidence that sea surface temperature will increase by 0.4-1.0oC by 2030 and 2-4oC by 2090.
By 2030 this increase may be as high as 1.6°C by 2050 and 3.0°C by 2090 under the worst cases. Extreme maximum temperatures are also projected to increase. In terms of rainfall, Kiribati's extreme rainfall events are projected to increase and drought to decrease, but the increase in total annual precipitations are not expected to be significant. In terms of sea level rise, it is predicted that sea level in Kiribati will continue to rise
By 2030, under the worst-case sea level rise in the range of 7–17cm is forecast. Sea-level rise combined with natural year-to-year changes will accentuate the impact of storm surges and coastal flooding, especially for the low-lying atolls of Kiribati, which are on average only 2 meters above sea level.
Long-term sea-level rise will continue to push sea levels higher resulting in high tide levels exceeding current king-tide levels more frequently. By convention ("rule of thumb") occurrence of flooding events trebles for every 0.1m of sea-level rise. Therefore, transport infrastructure designed for a 1-in-100-year flooding event (a common design criterion), could experience the same flood every few months after the sea level had risen 0.5 m.

Extreme storms, storm surges and cyclones. Kiribati has a low cyclone risk because it lies just outside the main tropical cyclone belt in Southwest Pacific and located close to the equator where cyclones are mostly in their formative stage and have not yet gain wind speed. Tropical cyclones hit about once per year, and rarely pass within 400km of Kiribati. However, the Gilbert Islands are vulnerable to other important extremes including extreme sea levels and storm surges associated with an increase in the incidence of cyclones and extreme storm events. Coastal inundation is a constant concern on low- lying islands in Kiribati. Inundation is expected to be triggered by high storm tide levels or swells, or the -occurrence of extreme storm and tropical cyclone activity, together. Northern atolls face a greater risk of cyclonic winds and storm surges than the southern atolls, where the risk is much lower because of proximity to the equator.

Finally, ocean acidification due to dissolution of carbon dioxide has been slowly increasing (reducing the pH) in Kiribati's waters for two centuries (Pacific Climate Change Science Program – PCCSP) for Kiribati for the 21st century and will continue to increase, threatening coral reef ecosystems.

4.1.2.3 Natural Hazards

Kiribati faces a moderate degree of risk to natural disasters. However, most of the population live a subsistence lifestyle as Kiribati has few natural resources and is one of the least developed Pacific Island countries. Even minor emergencies can overwhelm national capacity and significantly affect communities and the economy.

Kiribati is located in an area of high seismic activity and undersea earthquakes can generate destructive tsunamis. Due to the low level of some of the islands, Kiribati is highly vulnerable to the effects of tidal surges and sea level rises.

To date, no major rapid onset natural disaster has occurred, however climate-change related events are of increasing concern. Since November 2016 below average rainfall has led to an ongoing drought across the country, with the southern island most severely affected. Kiribati's traditional dry season, or Aumaiaki, occurs between April and September, with the rainy season, or Aumeang, from October to March. However, due to changes in climate, the country has been experiencing extreme drought-like conditions even during the traditional rainy season.

The Government has been taking a proactive leadership role to strengthen its capacity to respond to and mitigate the impacts of natural disasters and climate change. The Government continue to work with regional and international actors in mitigating the impact of drought in Kiribati. The country's National Disaster Management Office (NDMO) operates under the Office of the President and is responsible for the overall coordination of disaster risk management activities in the country.

4.1.3 Ecological Profile

Terrestrial Ecology. The atoll soil on all the subject islands is relatively poor and can only support a few plants. The most common include coconut (*Cocos nucifera*), pandanus (*Pandanus tectorius*), breadfruit (*Artocarpus sp.*), bwabwai/giant swamp taro (*Cyrtosperma chamisson).* Other trees include te burukam (*Casuarina eauisetifolia*), te buka (*Pisonia grandis*), te ren (*Tournefortia argentea*), te uri (*Guettarda speciosa*), and te non (*Morinda citrifolia*) are used as food and to harvest fruits. The scrub species *Scaevola sericea and Scaevola tucada (*te mao) is very common through most islands based on observation.

Along the beach fronts the legume locally known as te ruku (*Ipomoea sp*) is quite common. Te ngea (*Pemphis acidula*) can also be found in patches at certain locations along the lagoon shore and is common near many of the KOITIIP project locations. Mangrove's species found around the various islands, namely the white mangroves (*Sonneratio alba*), te tongo buangui (*Bruguiera gymnorhiza*), te aitoa (*Lumnitzera littores*), and the red mangrove (*Rhizophora stylosa*). However only *Rhizophora stylosa* was seen near the conceptual KOITIIP project locations. Other introduced and food crops include banana, pawpaw, pumpkins and few varieties of vegetables are cultivated on the island.

Native birds and insect species normally found on the islands are the common black noddy (*teio*), white noddy (kiakia), reef heron (*tekaai*) and frigate birds (*teeitei*). Noumatong one of the islets of Nonouti is a bird sanctuary, and is known to harbor black and white noddies, terns and frigate birds. In and nearby the villages, fauna mostly comprises introduced pigs, chickens, dogs, rats, and cats. The entire island of Kiritimati has been declared as wildlife sanctuary.

Marine Ecology. Kiribati territories stretch over an ocean area of more than 3.5 million sq km across the central Pacific Ocean, encompassing some of the world's most diverse and productive ecosystems. All the islands are of coralline origin and are surrounded by fringing or barrier coral reefs. The country is divided into three widely separated island groups - the Gilbert Group in the west, the Phoenix Group in the canter, and the Line Islands in the east.
Most islands particularly in the Gilbert group have large shallow lagoons and complex inner lagoon systems that provides habitat for flora and fauna and food for the islanders. Milkfish (*Chanos chanos*) and bone fish (*Albula glossodonta*) are present in the waters around most islands supporting artisanal fishing. Off-shore territorial waters are rich in fish stocks such as tuna and bill fish (MITTD and MISE, 2020).

4.1.4 Solid Waste Management

As a small atoll country, Kiribati, and in particular South Tarawa, is facing waste management problems due to its limited resources, shortage of land and an increase in urbanisation (ECD, 2007). However, there has been significant progress in strengthening overall management of solid waste in South Tarawa since 2011 because of support provided by New Zealand under the Urban Development Program. Comprehensive assistance has been provided for a range of activities including public awareness, waste collection and disposal, and recycling infrastructure and services (SPREP, 2014). Three landfills on South Tarawa were rehabilitated and new infrastructure (fencing, site offices and compacting rollers) provided (Neimi et al 2019). In recent years, some of wastes, including aluminium cans and polyethylene terephthalate (PET) bottles, have been almost eliminated from the waste stream due to the introduction of successful recycling initiatives.

However, other wastes, such as diapers and electronic waste, are becoming a growing problem (SPREP, 2014).

While many issues related to solid waste management are being streamlined, some issues remain that need immediate attention, and have been identified as priorities by stakeholders. These include improved management of hospital waste, greater efficiency in waste collection services, and ensuring that South Tarawa's landfill facilities are properly operated and maintained in line with management plans which have been developed with development partner assistance (SPREP 2014). As South Tarawa is already one of the most densely populated areas in the world, unmanaged urbanisation will have a major impact on waste management systems in this area. Poor waste management also has implications for general health and wellbeing and is a contributor to major public health problems, particularly with regards to infants and children (Neimi et al 2019).

Overall legal, policy, and planning for solid waste management is a national government responsibility. MELAD and its ECD is responsible for enforcing the Environment Act 1999 (SPREP, 2014). Implementation and enforcement of the Act and Regulations are faced with hurdles. These hurdles arise from typical situation of least developed nations: lack of financial, technological and personnel resources. Polluter's willingness to cooperate is also lacking, particularly shops and mechanical businesses. They refuse to remove their unwanted waste from current sites which affect aesthetic view because of costs they must incur. Such irresponsible behaviours of some businesses make implementation and enforcement of the Act and Regulations more difficult (ECD, 2007).

Waste Collection and Disposal

The responsibility for managing waste collection and disposal in landfills lies with the local government councils within their respective areas of authority. TeInainano Urban Council (TUC) is responsible for the part of South Tarawa from Tanaea town in the east to Bairiki; and Betio Town Council (BTC) is responsible for waste collection on Betio islet, which is linked to Bairiki by a causeway. Settlement areas and other premises, such as shops along the rest of the TUC area manage their own wastes. They dispose of wastes at sea or on the beach, turn them into compost used in gardening, bury them, or burn them (SPREP, 2014). Only about 38% of generated waste is collected by the council authorities, with the remaining waste either disposed of on-site (26%), by illegal dumping into the sea/lagoon (35%) and recycled (1%).

All wastes collected by the councils and private operators are directly disposed at landfill sites. TUC operates the landfills at Nanikai and Bikenibeu, while BTC operates the Betio landfill. In 2004, the Sanitation and Public Health and Environment Improvement Project (SAPHE), supported by the ADB, financed the construction of landfills at Nanikai and Bikenibeu, and repaired an existing landfill in Betio. The landfills have subsequently been rehabilitated and upgraded under the Urban Development Program. Other smaller dumpsites also exist, but these are illegal under the Environment Act. The Betio landfill is reported to have a remaining capacity of 8,500 cubic meters, while at Bikenibeu and Nanikai, remaining capacity is 32,500 cubic meters and 17,800 cubic meters respectively. All three have a gatehouse and fencing. The Bikenibeu and Nanikai landfills have inoperable leachate pumping systems. Because of the high water table, Bikenibeu landfill also has a water height of 1.2 meters. Due to the lack of locally available aggregate and proper equipment, none of the landfills use temporary cover. Betio and Nanikai landfills are periodically compacted (SPREP, 2014). The councils which operate the landfills in South Tarawa do not charge tipping fees for solid waste that enters the landfill. Therefore, there is little financial incentive to sort waste at source and dumpsite.

In Kiritimati Island, rubbish collection is undertaken by the Kiritimati Urban Council (KUC) with support from the Kiribati Waste Management Program. However, a mid-term evaluation of the program (Niemi et al 2019) reported the system is inadequate and widely perceived as unreliable. It currently covers only a portion of the households (those who pay an annual fee of their wages, which is about $50 per annum) and the

collection trucks in in urgent need of replacement. Dumping and burning are still prevalent. Burning of waste piles – at both formal and informal dumpsites – is pervasive. The largest and most heavily utilized formal dumpsite is the Tabwakea dumpsite or 'main dumpsite'. While the site was purportedly intended to receive council vehicles only, it is also utilized by members of the public for waste disposal. The site is unfenced and while a day-time watchman has been employed, it is still operating very much as an uncontrolled dumpsite (Neimi et al, 2019).

Recycling

Kiribati has led the Pacific with its approach to recycling. The deposit refund scheme has delivered significant benefits at a minimal cost to the Government (ECD, 2007)|. Kiribati's most successful recycling initiative has been the Kaoki Maange (Keep Kiribati Beautiful) Program. The recycling system based on the Kaoki Mange Container Deposit Legislation, operated under contract by a private sector business, functions as a recycling system for aluminium cans, PET bottles, and lead-acid batteries. The Special Fund (Waste Materials Recovery) Act 2004 allows for a deposit of A$0.05 to be levied on each beverage container at the point of import, with consumers being able to redeem A$0.04 when returning containers for recycling. The remaining A$0.01 covers handling fees to support recycling operations. The operator makes claims to Ministry of Finance and Economic Development (MFED) monthly. Generally, one container (20 or 40 feet, depending on cans received) containing cans, brass, and copper is exported to Australia every month and one 20-foot container containing PET bottles and lead-acid batteries is exported to Hong Kong, China every seven weeks. In April 2004 Cabinet approved the setting up of a Materials Recovery Facility (MRF) in the area next to the port, occupied at that time by Dai Nippon Construction during their work on the SAPHE project (SPREP, 2006). A pilot project on collecting non-organic household waste in biodegradable plastic bags ("green bags") is managed by the Foundation for the Peoples of the South Pacific, Kiribati (FSPK), a nongovernment organization that oversees truck scheduling, public engagement work, and bag distribution.

Composting

In the early 2000s, the concept of composting organic green waste in banana circles or compost heaps in households was promoted. However, discussions with some stakeholders indicated that the program cannot be expanded due to the lack of space in households. The Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries (J-PRISM), financed by the Japan International Cooperation Agency (JICA), focuses on the composting of organic waste on South Tarawa. It promoted home composting and the establishment of a centralized composting facility at the Betio landfill. A trial compost facility has been set up at the BTC office; and a platform has been prepared for a centralized plant at the Betio landfill, with a shredder provided by JICA (SPREP, 2014).

Bulky Waste

Kiribati, like other small Pacific island countries, has a significant waste problem with bulky wastes such as end-of-life vehicles, white goods (refrigerators, freezers, and washing machines), and electronic equipment. A scrap vehicle collection scheme was last implemented in 2007 under the South Pacific Regional Environment Programme (SPREP) Bulky Waste Pilot Project. A barge containing scrap metal from Kiritimati carried over 1,400 metric tons of scrap metal and 200 tons of bottle gas cylinders to Singapore for recycling. Most of the scrap metal came from the remains of British nuclear testing activities in the 1970s. Since then, old junk vehicles are being stockpiled for export in the MRF at Betio port, which is shared with the Kaoki Maange recycling system. There is potential to add vehicles to the existing deposit and refund legislation under the Special Fund (Waste Materials Recovery) Act 2004, requiring cars to pay a deposit on arrival to cover vehicle scrapping costs (SPREP, 2014).

Construction and Demolition Waste

Currently there is very little construction and demolition waste reaching the landfills (SKM, 200). However, large demolition and construction projects are a threat to landfill longevity due to the lack of available land fill space on South Tarawa. Large construction projects have not been required to make their own arrangements for disposal of demolition and construction waste. Instead, they make 'unplanned' use of scarce landfill space. Construction and demolition wastes consume valuable landfill space, shorten the life of the landfill, and can severely impact on landfill planning (Neimi et al 2019).

4.1.5 Hazardous Waste Management

Health Care Waste

Medical wastes are the primary responsibility of the health care institutions. They are responsible for minimizing the volumes needing disposal through judicious purchasing and strict segregation of infectious and non-infectious material (ECD, 2007). The exact amount of hospital waste generated in the country is difficult to know. There is no record keeping system for the waste generated from hospital and clinics activity. Most of health care wastes from health centers and clinics are mixed with the municipal solid waste because of the lack of proper disposal facility specific for medical and clinic wastes (ECD, 2007).

The management of healthcare and medical waste on South Tarawa remains problematic, despite the recent focus on healthcare waste management (2014-2017) under the EU funded Pacwaste project, which conducted baseline surveys and gap analyses in both South Tarawa and Kiritimati Island. Pacwaste also developed an implementation plan, healthcare waste management training, and installation of a healthcare waste incinerator at Tungaru (Inciner8 unit). However, the Inciner8 unit is no longer operational as it was damaged prior to installation. Exposure and substandard housing were contributing causes of this, with the unit now corroded and probably beyond repair. As a result, healthcare waste is now removed from the hospital (which presents a chain of custody and infection risk for waste workers and the public) and is burnt at low temperature in 200 litre steel drums in an isolated location using diesel as an accelerant. This approach does disinfect the healthcare waste and does not meet Best Available Techniques (BAT) and Best Environmental Practices (BEP) requirements under the Stockholm Convention (Neimi et al, 2019).

E-Waste

As is the case with many other countries across the world, Kiribati has an increasing proliferation of electronic and electrical goods (such as computers, mobile phones, iPad, printers, and photocopiers). Increasing use of such technology, high obsolescence due to limited repair capabilities and the need for newer models has resulted in an increased accumulation of e-waste. E-waste is categorized as hazardous waste, as it also contains hazardous substances like lead, cadmium, and mercury. Incorrect disposal of e-waste can cause serious damage to the environment and to public health (SPREP, 2009).

Phase 1 of a MFAT sponsored Kiribati Solid Waste Management (SWM) programme provided some funding for the management of e-waste through the identification of a storage facility for e-waste in South Tarawa, the organisation of a process for retrieving e-waste in consultation with councils, and the establishment of an ongoing schedule that covers these objectives. This project commenced in 2011 and work on E-waste started in mid-2012. MFAT agreed to provide support on E-waste until 2015. The project collected e-waste at the Tarawa MRF and expected to make a single TEU shipment by the end of 2014. Infrastructure was built which comprises three shipping containers on fixed foundations under a permanent roof, and this allows sufficient space to receive, process for dismantling, pack, and store E-waste for future shipment. Project management is under the Kiribati ECD (SPREP, 2014a). However, the SWM programme is only providing limited support for e-waste during Phase 2, apart from general coordination support via the funded Waste Minimisation

Officer. The reason is that MFAT considered that the Secretariat of the Pacific Regional Environment Programme (SPREP) was likely to continue to provide funding support in this area through the Pacwaste project. The MFAT mid-term evaluation team were informed that full container load of e-scrap has been filled and was waiting to be exported. However, money is needed for export. The SPREP funded Pacwaste project was finalised in March 2018 without exporting the materials that had been collected and stored.

The main sources of e-waste come from the major consumers such as Government agencies, institutions, businesses, and the community (SPREP, 2009). The disposal of all Government purchased assets that would include electrical and electronic appliances, is required to be verified prior to being disposed. This is specified by the Stores Regulation which has been inherited since the colonial days and has not been changed since (SPREP, 2009). The regulation dictates that any stock declared by a senior responsible officer of a ministry to be inoperative before it is thrown out of the office it must be verified to be so by the Government Stock Verifier in the Ministry of Finance. Once it has been inspected the waste is then disposed in a manner recommended by the Stock Verifier. This legal requirement may explain why there are no immediate build-up of e-waste in the land fill area given that the Government is the major IT technology user in the country (SPREP, 2009).

Asbestos

Asbestos is a naturally occurring rock fibre that it is harmful to humans. When products containing asbestos are damaged, such as during demolition or refurbishment, small fibres are released and become airborne. Breathing in asbestos fibres can cause a range of diseases including cancer (SPREP, et al, 2016). A regional survey undertaken by the Pacwaste project found a very large amount of non-residential asbestos in Kiribati. It should be noted that 98% of this was identified on Banaba (Ocean Island) and not in South Tarawa. However, the survey also observed that 29% of residential houses were suspected of containing asbestos building materials on Tarawa (SPREP et al, 2016). Therefore, it is likely that some asbestos may be present in old buildings and structures to be demolished and that asbestos may end up in demolition debris during demolition and refurbishment activities. All asbestos waste and products containing asbestos should be removed by specially trained workers and buried at an approved and licensed landfill. The waste must not be tampered with or broken down to ensure that no fibres become airborne

4.1.6 Unexploded Ordnance (UXO)

The islands that now comprise Kiribati had played an important role in World War II and some hosted military operations even after the war. There is thus a significant presence of unexploded ordnance (UXO) in many parts of the country, including underwater. Most of the UXO encountered in Kiribati are remnants from the World War II conflict. These UXO include artillery projectiles, aerial bombs, rockets, mortars, and mines (Wikipedia).

4.2 Socio-Economic Baseline

The Republic of Kiribati is one of the smallest, most remote and geographically dispersed countries in the world. The country consists of 32 low lying coral islands and one raised coral island in three main island groups - namely the Line Islands, Phoenix Islands and Gilbert Islands (Figure 1).

Most islands are no more than two meters above mean sea level and only a few hundred meters wide. As such, they are at the forefront of climate change. The capital, South Tarawa, is about 4,000 km from the major trade markets of Australia and New Zealand. With a total population estimated at 110,136 in 2015, Kiribati's population is spread amongst 167 rural villages and one urban area on 21 islands across some three million

square meters. These geographical features create significant human development and economic growth challenges.

4.2.1 Kiribati's HDI value and rank

Kiribati's HDI value for 2018 was 0.623, a 10.4% increase in the period since 2000. Between 1990 and 2018, Kiribati's life expectancy at birth increased by 8.5 years, mean years of schooling increased by 1.1 years and expected years of schooling increased by 1.4 years. Kiribati's GNI per capita increased by about 66.1% during this period. The UN Development Agency (UNDP) classifies Kiribati in the medium human development category, ranked it at 132 out of 189 countries and territories (UNDP, 2019).

4.2.2 Demography

Twenty-one islands (out of the 32 islands comprising the country) are inhabited by the national population of around 110,000, with the majority residing on the Gilberts group of islands. The outer-islands population ranges from a few thousand to less than a hundred across the different island chains, with approximately 51% of the country's population living in the capital on South Tarawa (in the Gilbert Islands). As of 2015 Census, Kiribati's population is mainly rural and growing, with average 3.7 children and life expectancy 66.1 years..

Table 4. Population by Age Group and Sex, 2015

Age Group	Male	Female	Total	% Total Pop.	% Male	% Female
0 - 14	19,758	18,680	38,438	34.9%	51.4%	48.6%
15 -24	11,050	10,946	21,996	20.0%	50.2%	49.8%
25 - 59	20710	22581	43,291	39.3%	47.8%	52.2%
60+	2578	3833	6,411	5.8%	40.2%	59.8%
Total	54,096	56,040	110,136	100.00%	49.1%	50.9%

Kiribati has a median age of 25.7 years and an age dependency ratio of 66 (World Bank). Some 35% of the population are under 15 years of age, representing a significant burden on education and social services; 20% of the population are under 25 years of age, representing a significant burden on higher education, training and employment, which is likely to endure for some years to come. Gender is evenly balanced within the population, apart from in the older age group where women represent 60% of all those aged 60 years and over.

South Tarawa is very densely populated, with inhabitants originating from islands throughout the Gilbert group as well as South Tarawa itself. Even between the main urban areas of Bonriki, Bikenibeu, Bairiki and Betio, land is almost entirely taken up by residential, commercial and communal buildings and their surrounding compounds. According to the 2015 census the population stands at some 56,388 people representing an average population density of around 2,772 people per km^2 over less than 15 km^2 of land area. Within the urban areas, such as Betio, it reaches 10,377 people/km^2 which is very high among Pacific capitals.

Kiribati is experiencing an acute rise in environmental and socio-economic problems caused by over-population. The population of South Tarawa is growing very rapidly and is a magnet for internal migration from the outer islands as it provides opportunities for employment and consumption, as well as access to higher education and specialist social services not available elsewhere in Kiribati. It grew by almost 10,000 people between 2005 and 2010, an annual population growth of 4.4%.

Indigenous People and Culture. Ninety percent of the total I-Kiribati population are of indigenous origin, the remaining proportion being non-indigenous Chinese and Europeans, many of whom have married indigenous partners. Of the population over the age of 3 at the time of the 2010 census, 92% read Kiribati (Gilbertese), and 76% read English. Some in-married individuals of Tuvaluan origin might speak Tuvaluan with each other, but there is no distinct discrete group that speaks another language.

No tribal groups exist in Kiribati. Clans comprise extended families. There is no island where those who are other than I-Kiribati reside as a bloc; residence is a random mix that relates to marriage and custom. Islands may have local myths and cultural practices regarding land ownership and inheritance that have evolved in earlier isolation but cannot be construed as discriminatory based on indigeneity/ethnic status, which is specifically prohibited under Article 15 of the Constitution.

Vulnerable Groups. Poverty in Kiribati is linked to several trends including the exclusion of certain groups e.g., people with disabilities and unemployed youths. Traditional care systems, for example, sharing remittances, have been breaking down for some time in Kiribati, with greater focus on the nuclear family rather than the traditional extended family. This has consequences for single women, vulnerable children, the elderly, and people with disabilities. Poor households with insufficient cash to fulfil their social obligations may drop out of social networks. Households with limited labour capacity, such as small households headed by the elderly or households with many children, are increasingly excluded from informal social protection systems. While households are expected to have the right balance of age and gender to meet their needs, this is a growing challenge on the Outer Islands as younger and able-bodied people migrate (AusAID, 2o12).

4.2.6 Education

Kiribati pre-school and primary schooling is provided locally. Junior secondary schools are present on most islands, many of them established in recent years. Senior secondary schools, however, are fewer in number and mainly on South Tarawa. Many children from the Outer Islands have to travel to South Tarawa for senior secondary school, staying with relatives or boarding. The state provides free compulsory education for children up to 12 years of age, or until the end of Class 6, and free education to Form 3. However, students pay fees to attend senior secondary school. The state subsidises schools. In the 2006 budget, $363 was allocated for each primary school student and $1,274 for each secondary school student (ADB 2009:55). However, parents may be required to cover informal costs such as contributions for special events, school supplies and uniforms and, when children attend junior secondary school, many families pay travel costs because schools are further away from many villages.

Enrolments in primary school are relatively high: 90% gross enrolment and 74% net enrolment in 2008. Although completion rates to the end of primary school were above 100 per cent between 1992 and 2006, they fell to 80% by 2009; enrolment at junior secondary schools also fell during this period. Boys are more likely than girls to drop out of secondary school. The overall secondary school enrolment rate is estimated at around 69%, but 94% of girls are enrolled at junior secondary level and 53% at senior secondary school level, compared with 78% and 36% respectively of boys (UN, 2018)

4.2.3 Economy

Kiribati has a limited economic base, dominated by (i) investment income from its sovereign wealth fund, the Revenue Equalization Reserve Fund (RERF), (ii) the sale of fishing license fees, (iii) remittances, and (iv) aid flow. Only around 20% of the country's population is formally employed in the cash economy, with 80% of the jobs provided by the public sector. Food security relies largely on subsistence agriculture and fisheries.

Economic growth is volatile. However, Kiribati had seen seven consecutive years of growth up to 2017 driven by fisheries revenues, construction, wholesale, and retail trade. Inflation has been low and stable in recent years, and the fiscal position has improved markedly due to high fishing license fee revenue contributing to consistent surpluses. Outside of fisheries, the country has few natural resources, mostly infertile and porous soil, and is remote from international markets and trade routes. Further, due to climate uncertainty it is seen as a risky environment to conduct business. Private sector development opportunities are highly constrained by the lack of economies of scale possible in such a small and fragmented domestic market that is extremely remote from large markets abroad.

Kiribati's economic prospects are further hampered by low skill levels. Limitations in primary and secondary education mean that 70% of students are at risk of illiteracy. Many children leave school early, particularly during the transition to senior secondary school. Teaching quality is inadequate with, for example, only 35% of senior secondary school teachers having the minimum training required. Although the secondary school curriculum is in English, teachers tend to teach in the Kiribati language, and inadequate English skills prevent I-Kiribati from obtaining jobs overseas. The teaching environment and school infrastructure quality are also issues, with many buildings in need of repair.

After school training is available in different centres, although places are limited. Two centres provide training for seafarers: The Maritime Training Centre (which provides six months of intensive English language training) and the Fisheries Training Centre. The Kiribati Institute of Technology offers vocational training, although not necessarily in skills demanded by employers or the wider region. The University of the South Pacific offers a one-year foundation course to enable students to continue studying in the University's main campuses in Fiji and Vanuatu.

Kiribati has been described by the UN Committee for Development Policy as the most economically vulnerable country in the world. Small population, geographical remoteness, physical exposure to sea-related risks for people living in low-lying areas, and a high ratio of victims of natural disasters are critical components of its economic vulnerability. The Committee has warned that Kiribati is likely to remain a permanently fragile economy as a consequence of its geography and sees little scope for improvement in its economic vulnerability (UN 2018).

Kiribati population census of 2010 recorded high unemployment at 30.6% and youth, which make up 57% of the population, experiencing even higher rates of unemployment at 54%. The public sector accounts for nearly 80% of all jobs in the formal sector, while the private sector remains underdeveloped. The 2006 HEIS report stated that 38 percent of the adult population (44% of men and 33% of women) were currently engaged in work activity. Around 28 percent of men and 18 percent of women were working for wages and salaries in either full-time or part-time work. Nearly 4 percent of men and 4.6 percent of women were working in their own business or selling produce, and 11.8 percent of men and 10.8 percent of women were working mainly for subsistence.

The public service is the largest employer in Kiribati. Data provided from the GOK indicates that 5,168 public service posts were established in 2018, an increase from 4,952 in 2017. Almost all households on Abaiang, Beru, Nonouti and Tab South are involved in trading of copra and fish and seafood. With limited job opportunities, the primary economic activity for women on outer islands is trading of copra and fresh fish and handicrafts. On the four islands identified by KOITIIP there is a total of 31 business registered as women owned (Abaiang 14, Beru 3, Nonouti 2 and Tab. South 12), however, almost all other women are involved in informal trading.

Livelihood is mainly at the subsistence farming and artisanal fishing level, especially outside of the urban center of South Tarawa. Limited access to land and its limited suitability for agriculture has led to food insecurity and malnutrition and led the country to rely heavily on imported goods. The latest Household

Income and Expenditure Survey (HIES) done in 2006 showed food poverty (based on national poverty lines) to be low in Kiribati, at about 5 percent of the population, but basic needs poverty (based on national poverty lines) to be relatively widespread, at about 22 percent. Poverty rates varied significantly by island group, depending on available economic opportunities, the extent of isolation, and the age structure of the population. For instance, about 16 percent of the population of the Southern Gilbert Islands were found to be below the food poverty line, reflecting isolation, limited agricultural potential, and vulnerability to drought. These islands had the highest proportion of elderly people in the country, and a low proportion of working age adults. A large proportion of the population was found to be vulnerable to falling into poverty.

Poverty. Poverty trends in Kiribati are difficult to assess given the infrequency of data collection. The 2006 Household Income and Expenditure Survey (HIES) showed that the poverty rate was 34.6% based on the lower MIC poverty line and 12.9% based on the international poverty line. Poverty rates were relatively higher in South Tarawa (24.2%) and the rest of the Gilbert Islands (22%) compared to the Line and Phoenix Islands (8.9%). The Gini Coefficient was 37, which is below the regional average.

4.2.4 Power and Energy

Kiribati is highly dependent on petroleum imports for electricity generation. Petroleum use consists of petrol, diesel, and kerosene. The government-owned Public Utility Board supplies diesel generated power in South Tarawa. The Kiribati Solar Energy Company provides electricity to outer islands through solar home systems. Initially formed in 1984 by an NGO, the company is now owned entirely by the government. There is little private sector involvement. The Ministry of Public Works and Utilities is responsible for the planning, management, and co-ordination of the energy sector.

At present, Kiribati gets all its fossil fuels through imports. However, to improve sustainability and to create a market, the country has attempted to make use of biofuels through its local coconut oil and copra industries, via the state-owned Kiribati Copra Milling Company. Kiribati has established a national task force on biofuels, consisting of the Ministry of Works and Energy, the Kiribati Copra Milling Company, and the national Kiribati Oil Company, to lead the way in establishing a national biofuel industry. The process is managed by the government-owned Kiribati Oil Company, which imports and supplies fuels for direct use, power generation and transport – usually through contracts with large multinational oil companies.

4.2.5 Water Utility

Groundwater is the main source of freshwater for South Tarawa and outer island residents. Due to the uneven distribution of rainfall throughout the year, rainwater is considered only as a supplementary water source. The government-run Public Utilities Board co-ordinates and manages water supply and sewage disposal on South Tarawa. There are three government departments that deal with the administration of the water sector – the Ministry of Environmental Health, the Ministry of Health and Family Planning, and the Water Unit of the Ministry of Works and Energy Public Utilities Board. The Public Works Division of the Ministry of Works and Energy is responsible for co-ordinating the water supply to the Outer Islands.

4.2.6 Health and Healthcare Services

Despite notable improvements in recent decades, most population health outcomes in Kiribati do not compare well with other small countries in the Pacific. In many respects, this reflects the very difficult geographic, environmental, and social determinants of health that the country faces. In principle, the population of Kiribati has low-cost access to some form of basic health care, delivered predominantly by the MHMS through a network of four hospitals, 22 health canters and 84 village clinics, all public facilities. Access to basic health services in remote, hard-to-reach small maritime populations in outer islands makes referrals and health

services logistics very difficult, expensive, and often only available by sea. The range of treatments is limited to primary care on most islands, with secondary care in the main hospital on South Tarawa. More serious cases require medical evacuation to Australia, New Zealand, or Fiji.

Kiribati faces a double burden of disease, with high mortality and morbidity from both communicable and non-communicable diseases (NCDs). NCDs, heart disease, hypertension, diabetes, and cancer, are becoming more prevalent, contributing to increased hardship in the community and higher health service costs. Obesity among the adult population is a growing challenge and alcohol and smoking-related diseases are on the rise. Indeed, nearly 70% of males and almost 50% of women smoke. As the population ages, non-communicable and lifestyle diseases will comprise an increasing proportion of the health burden, at potentially higher cost to the budget. At the same time, communicable diseases such as acute respiratory infections and diarrhoea are common. Tuberculosis and HIV/AIDS are on the rise and becoming a cause for concern for Government.

Kiribati's health situation has improved over time and health gains have been made overall. Average life expectancy at birth has risen from 60 years in1990 to 66 years in 2015.The incidence of some common communicable diseases such as diarrhoea and respiratory tract infections has also declined. However, Kiribati is one of only three Pacific Island countries that did not achieve any of the health Millennium Development Goals. In 2015, the maternal mortality ratio was 90 per 100000 births, and infant and under-five mortality rates were 44 and 56 per 1000 livebirths, respectively. High levels of neonatal mortality and malnutrition are also central concerns.

Other major health problems include the prevalence of communicable diseases, with the number of tuberculosis (TB) and leprosy cases among the highest in the Pacific. The burden of noncommunicable diseases (NCDs) also remains significant. A 2016 STEP wise approach to NCD surveillance (STEPS) survey indicates that little progress has been made on NCDs since 2006. Mental illness, suicides, domestic violence, injuries and gaps in health service delivery are also problems that need to be addressed.

Health services are delivered free of charge through a network of health facilities comprised of four hospitals, 30 health centres and 75 clinics. Health remains among the core priorities for Kiribati, receiving the second highest government budget allocation for 2015 and 2016.The Government's commitment to the 2030 Agenda for Sustainable Development is reflected in the strategic actions and core indicators of the Kiribati Development Plan 2016–2019. The third goal of the plan is to improve population health and health equity through reductions in morbidity and mortalities from common diseases including NCDs and improved population coverage and access to quality care.

The vision of the Kiribati Health Strategic Plan 2016–2019 is "Akea Toki n Te Tamaroa towards healthy population that is well supported by quality health services". The strategic framework sets out six key goals: strengthen initiatives to reduce the impact of NCDs; increase access to and use of comprehensive family planning services; improve maternal, newborn and child care health; prevent the outbreak of communicable diseases and strengthen existing disease control programmes; address gaps in health services delivery and strengthen pillars of the health system; and improve access to appropriate, high-quality health care services for victims of gender-based violence, and for the specific needs of young people. (WHO, Country Cooperation Strategy at a Glance, Kiribati, 2017, May)

4.2.7 Gender Equality

Kiribati has one of the lowest number of women represented in national parliament in the world (6.5%) and only around 33% of women participate in the labour force compared to 53% of men (ILO, 2018). Most formal businesses are owned and controlled by men (57%)[4]. Women are mainly engaged in the informal sector and

[4] Statistic provided by Ministry of Commerce (October 2019).

their work is usually home-based care work, subsistence agriculture, marketing of agricultural products, and informal trading.

Kiribati society has traditionally been male dominated with women in subordinate positions. In traditional communities, elder men are the decision makers. Following marriage, women move into their husband's household where they assume a subordinate position and take on the bulk of domestic chores. In the traditional economy, women have the heaviest workloads. Although they have less access to employment, 38% of paid workers were women in 2005.

According to the 2006 national household survey, around one in five households are headed by single females. Overall, these are over-represented among the poor, comprising around one in four households in the poorest quintile in South Tarawa and the rural Gilbert Islands. The ADB in 2009 noted that extended family support for abandoned wives was decreasing, while increasing numbers of men are leaving their wives. It is difficult for abandoned wives to get child maintenance through the courts, given the absence of family law in Kiribati, although the Ministry of Internal and Social Affairs supports a small proportion of abandoned wives by obliging husbands to pay child maintenance.

4.2.8 Gender Based Violence

Gender Based Violence (GBV) rates in Kiribati are more than twice the global average with 68% of ever married women aged 15-49 in Kiribati having been subject to GBV (SPC, 2010). Availability of alcohol, high unemployment, over-crowding, and high living cost drive high levels of GBV in South Tarawa. The GOK has established a national SafeNet referral system linking health, police, and social welfare services. However, this has not been rolled out in all outer islands.

The stress, disruption of social and protective networks, and reduced access to services associated with occurrence of COVID-19 in Kiribati would be likely to exacerbate the risk of GBV. If distancing measures were put in place and people encouraged to stay at home, the risk of intimate partner violence would be likely to increase. For example:

- The likelihood that women in an abusive relationship and their children would be exposed to violence would dramatically increase, as family members spent more time in close contact and families were forced to cope with additional stress and potential economic or job losses.
- Women might have less contact with family and friends who could provide support and protection from violence.
- Women would bear the brunt of increased care work during the pandemic. School closures would further exacerbate this burden and place more stress on them.
- The disruption of livelihoods and ability to earn a living, including for women (many of whom are informal wage workers), might reduce access to basic needs and services, increasing stress on families, with the potential to exacerbate conflicts and violence. As resources became scarcer, women would be at greater risk for experiencing economic abuse.

At the same time, access to vital sexual and reproductive health services, including for women subjected to violence, would become more difficult. Other services, such as crisis centres, shelters and other protective services which are currently only available in the capital, Tarawa and not on the outer Islands, might also be scaled back, further reducing access to the few available sources of support for women in abusive relationships.

4.2.9 Infection Prevention and Control

This COVID-19 pandemic follows a measles outbreak in the Pacific at the end of 2019. Kiribati's response to the measles outbreak in the Pacific provided an opportunity for the MHMS to improve its response to

infectious disease outbreaks, including IPC. As part of the GoK's response to COVID-19, the GoK is providing water and sanitation (WASH) services. MFAT and UNICEF have also provided support for improving WASH at health facilities over recent years, but ongoing maintenance is an ongoing problem. SPC has provided technical assistance on a regional template for use in completing an IPC Plan, with technical support from DFAT to develop a Kiribati specific IPC Plan which is now in draft. WHO trained healthcare workers and non-healthcare workers on IPC and distributed soap to the community and outer islands. Recently Kiribati has also started to produce local hand sanitizer in line with WHO guidance. However, safe water and sanitation services remain inadequate for many, including limited working hand-basins and taps for basic IPC in most health facilities.

5. ENVIRONMENT AND SOCIAL RISKS, POTENTIAL IMPACTS AND MITIGATION

The Project is designed and is expected to have positive environmental and social impacts as it seeks to strengthen the health service in Kiribati. The main positive benefits would be improved community health due to improved access of beneficiaries, including those in outer islands to health referral service, the establishment of infection prevention control (IPC) and much safer heath care waste management (HCWM) system. Women and children will be specially benefited due to preventive program's focus on maternal, new-born and child health.

However, project activities also present environmental, social, health and safety risks for the project workforce and communities, and the environment due to exposure to hazardous materials and healthcare waste, risks and impacts from construction activities (e.g. generation of noise and dust and through materials sourcing), the consumption of finite resources (e.g. energy and water), involuntary loss of land and other assets, harm to community members from inappropriate or misused medical equipment, marginalized, vulnerable or remote social groups being unable to access facilities and SEA/SH.

As discussed in Section 2.4, there are eight (8) main types of project activities under this project: (1) Construction and Operation of HCF; (2) Refurbishments and operation of existing HCF; (3) Procurement, Installation and Operations and Maintenance of Equipment; (4) Acquisition, Operations and Maintenance of Sea Ambulances; (5) Design and Implementation of IPC; (6) Design and Implementation of Heath Care Wastes Management (HCWM) System; (7) Capacity Building; and (8) Research studies. The key risks and potential impacts of these activities are identified an assessed in this section.

5.1 Environmental and Social Risks and Potential Impacts

The environmental and social risks and potential negative impacts of key activities under KHSSP are identified in Table 5 below for each phase of the project development.

Table 5. Environmental and social risks and impacts of project activities

Activity	Potential Environmental Impacts and Risks
1. Construction and operation of HCF (e.g., Rebuilding of KDH)	**Pre-construction (Planning and Design) Phase** (a) Low sense of ownership and lack of cooperation of key agencies due to lack of involvement during project planning and design (b) Unfavourable perception by the public due to lack of accurate information about the project (c) Potential involuntary loss of land, homes, structures, crops, and other assets on land **Construction Phase**

Activity	Potential Environmental Impacts and Risks
	(a) Environment: Construction/demolition-related environmental impacts viz: minor land clearance (loss of biodiversity through the clearing of a small number of trees and increased erosion), localized erosion and sedimentation, generation of noise, dust and fine particulate matter, hydrocarbon spills, generation of construction waste (potentially including asbestos containing materials), potential land degradation at borrow pits and from aggregate extraction, generation of domestic waste (including sewage and waste water should camp sites be required. Construction works will be completed on a brownfield site minimising any impacts on biodiversity. (b) OHS: Exposure of workers to general construction-related hazards (e.g., risks of fall from heights, being struck by objects, etc.) (c) Community Health and Safety: Exposure of nearby residents to construction site hazards (e.g., sharp objects, hazardous chemicals, etc.), including traffic accidents; potential increase spread of infectious diseases due to interaction with non-resident labor. (d) Inadvertent damage to private properties (e) Damage to public infrastructure and facilities (community road, bridges, causeways, ports) due to increase wear and tear or overloading and construction traffic (f) Labor issues (non-observance of basic worker's rights, lack of protection, child labor) (g) Chance discovery and risk of accidental destruction of chance archaeological finds during excavation (h) Chance encounter of unexploded Ordnance (UXO) **Operations Phase** (a) Generation of possible healthcare waste-contaminated greywater (domestic wastewater) from hospital operations (b) Generation of various types of health care wastes (e.g., infectious, and hazardous), including laboratory wastes (c) Exposure of workers and patients from airborne or blood borne pathogens (d) Exposure of workers and patients from hazardous materials at the hospital, including ionizing radiation from radiology units, etc. (e) risk of fire (f) risk of natural disaster events earthquake, tsunami, and cyclones (h) Labor issues (non-observance of basic worker's rights, lack of worker protection, hiring of minors) (i) Facility and services could be less accessible to some groups (PWD and Pregnant Women, etc.)
2. Refurbishing and operation of existing HCF (e.g., outer island health centers/clinics)	Same as above but at a much smaller scale. (b) Exposure of HCF workers and patients to noise and air emissions during construction, if the facility remains open during refurbishment work.
3. Procurement, installation/rehabilitation, and	Laboratory:

Activity	Potential Environmental Impacts and Risks
operation of equipment (e.g., Equipping the new, newly refurbished, or existing facility, e.g., Equipping the new Betio Hospital)	(a) Community and occupational safety and health issues associated with installation and operation of electrical equipment and working in a Clinical Laboratory. Exposure to chemical hazard (e.g., cleaning agents, disinfectants, etc.), electrical hazard due to malfunctioning equipment; and biological hazards from biological samples. (b) Generation of hazardous wastes. Radiology Unit: (a) Community and occupational health and safety issues associated with working in a Medical Radiology Unit. Exposure of technician to ionizing radiation hazard. Mobile Blood Donor Unit: (a) Exposure of health care worker to biological hazard (b) Generation of hazardous waste
4. Acquisition, Operation and Maintenance of Sea Ambulances (e.g., the two ambulances under Component 1)	(a) Accidental release of fuel, lubricants, and other petroleum-based products to the sea (b) Toxic non-fouling coating materials may contaminate local waters (c) Release of domestic wastewater into the ocean (d) Occupational health and safety on board (e.g., standard crew accommodation and working spaces, physical hazards, confined spaces, and chemical hazards) (e) Community health and safety on board, including life safety and fire safety. (f) generation of small volumes of healthcare waste
5. Design and implementation of Infection Prevention Control (IPC) system	Downstream impacts to workers and community members if not designed and implemented correctly (e.g., exposure to infectious materials)
6. Design and implementation of Medical Waste Management (MWM) system	Downstream impacts to workers and community members if not designed and implemented correctly e.g., (a) Possible contamination of the environment with health care wastes; and (b) Exposure of health care workers to infectious and hazardous wastes

5.2 Risks and Impact Assessment and Proposed Management Measures

5.2.1 Environmental Risk and Impacts and Management Measures

Key environmental risks and impacts of the project would come from:

1. Construction and Demolition. Construction activities which may include demolition of existing structures, clearing of new lands for access road, and sourcing of embankment materials from borrow pits and aggregates from quarries. These construction works are small scale and hence their environmental risks and impacts are assessed only as moderate.
2. Operational risks. During the operations of the health care facilities, the risks would mainly relate to the generation of health care waste. There are also significant occupational health and safety risks principally due to exposure of workers to physical, chemical, and biological hazards associated with health care facilities operations. Operational waste management plans will be developed/updated and implemented for each supported facility. The operation of sea ambulances presents additional layer of environmental risks to health care wastes and occupational health and safety. The World Bank EHS Guidelines for

Health Care Facilities as well as for shipping industry should be consulted when assessing the risks and impacts of sea ambulances operation.

3. Technical assistance activities. Technical assistance activities have the potential to cause unintended consequences if they are poorly designed, developed and implemented (e.g., inadequate infection prevention and control measures results in health risks to workers and/or community members).

Table 6. Environmental risks and impacts of project activities, their significance and management measures

Potential Environmental Impacts and Risks	Rating	Management Measures
A. Construction activities		
Construction-related environmental impacts	Moderate	Apply standard mitigation measures - Refer to World Bank EHS Guidelines for Construction Require contractors to prepare their own Contractor's ESMP based on Code of Environmental and Social Practice (COESP) for Contractors (Annex VIII)
Environmental impacts of aggregate extraction and borrow pits	Moderate (small scale only)	Use only government approved sources. Apply the guidelines for sourcing aggregates or borrow materials (Annex XII).
Exposure of workers to construction-related occupational health and safety hazards	Moderate	Provide standard management measures - Refer to World Bank EHS Guidelines for Construction The ESIA or ESMP will include specific measures for relevant OSH issues/hazards. For Subprojects that undergo full ESIA, an audit checklist will be developed which will be used by PMU and KSFU site audits. For Subprojects that require only a simple ESMP matrix, the matrix itself will serve as the OSH Audit Checklist and will be the basis for PMU or KSFU regular and random site audits.
Exposure of residents to construction-related hazards at construction site	Moderate	Apply standard mitigation measures from World Bank EHS Guidelines for Construction
Domestic waste from workers camp	Low	Collect domestic effluent into adequate capacity septic tank for primary treatment
Hazardous waste from construction site	Low	Contractors to comply with regulations on construction waste (see Section 4.1).
Spread of infectious diseases due to presence of non-resident workers population	Moderate	Contractor to undertake medical screening of workers and comply with the KHSSP IPC (Annex VI) and KHSSP Waste Management Guidelines (Annex VII) in this ESMF
Chance discovery of artefacts	Low	Contractor to adopt the Chance Find Procedure (Annex IX)
Risk of UXO	Moderate	Follow protocols for suspected UXO sites (Annex X)
B. Health Care Facility Operations		
Building design structural integrity safety hazards	Low	Building structural design to follow GIIP and National Building Code (Building Act 2006)

Potential Environmental Impacts and Risks	Rating	Management Measures
Risk of natural disaster cyclone storm surge	Moderate	Building design to address possible storm surge events.
Generation of domestic waste from hospital operations	Low	Install a compact wastewater treatment plant
Generation of various types of health care waste	High	Design and implement a Medical Waste Management system
Occupation health and safety of health care workers	High	Provide PPE and training. (Refer to WB EHSG for Health Care Facility.)
Occupational health and safety of medical laboratory workers	High	Provide appropriate PPE and training. (Refer to WB EHSG for Health Care Facility.)
Generation of medical laboratory wastes	High	Integrate laboratory waste into the MWM system (Refer to WB EHSG for Health Care Facility.)
Occupational health and safety of Radiology Unit workers	High	Provide appropriate PPE and training
C. Operation of sea Ambulances		
Release of fuel, lubricants, and other petroleum-based products into the sea	Moderate	Provide proper storage of waste oils, and practice good housekeeping and regular maintenance of engines
Toxic non-fouling coating materials for ship's hull may contaminate local waters	Low	Use alternative non-toxic coating (Refer to WB EHSG for Shipping)
Release of domestic wastewater into the ocean	Low	Comply with International Convention for the Prevention of Pollution from Ships (MARPOL 73/78, as amended)
Generation of health care waste on board vessels	Moderate	Integrate Ambulance health care waste into the MWM system
Occupational health and safety on board vessels	Moderate	Follow minimum standards (Refer to WB EHSG for Shipping)
Community health and safety on board, including life safety and fire safety.	Moderate	Comply with Maritime Safety regulations (Refer to WB EHSG for Shipping)

5.3.1 Social Risks and Impacts and Management Measures

The social risks include involuntary loss of land and other assets due to land acquisition requirements, labor management issues, possible poor cooperation from other agencies due to lack of sense of ownership and possible unfavourable public perception by the public. These are however all assessed to be low due to the small-scale nature of most activities. Although all construction activities will be undertaken within an existing facility, the initial project concept did not rule out land acquisition. The rebuilding of the Kiritimati District Hospital is expected to be undertaken within the existing hospital site which is a government own land with adequate road access. However, MHMS is still considering alternative sites which may require land acquisition for access road. Other land requirements, if any, will probably be coming from the refurbishments of clinics and health centres in the outer islands but these also will likely be undertaken within existing sites. However, these are certainly only small land acquisitions and hence would not likely entail displacement of homes or livelihood. Nevertheless, a Resettlement Policy Framework (Annex III) has been prepared to guide land acquisition, compensation and resettlement if required. The risks on gender-based violence is assessed to be moderate due to the high prevalence of the issue in the country.

Table 7. Social risks and impacts of key project activities/subprojects their significance and management measures

Potential Risks and Impacts	Rating	Management Measure
A. General Construction		
Lack of ownership of the project among government agencies	Low	Implement the Stakeholder Engagement Plan (Annex IV)
Unfavourable public perception	Low	Implement the Stakeholder Engagement Plan and Grievance Redress Mechanism (Annex IV)
Loss of land, homes, structures, crops, and other assets on land	. Moderate	MHMS should maximize the use of existing government lands and where additional land is required, shall avoid displacing homes and livelihood. If private lands will be acquired, MHMS shall undertake the preparation and implementation of a Resettlement Plan in accordance with the KHSSP Resettlement Policy Framework (Annex III)
Inadvertent/unintended damage to private properties during construction	Low	Contractors' contract to include provisions for contractors to compensate or restore any accidental damages they incur during construction
Damage to public infrastructure and facilities	Low	Contracts to include provisions for the contractor to repair and maintain roads, causeways, ports, and other facilities during construction period when damaged
Potential denial by contractors of the basic rights to their workers	Low	Contractor to conform to the LMP (Annex V)
Possible hiring of children in the construction works	Low	Contractor to conform to the LMP (Annex V)
Increase incidence of gender-based violence due to presence of non-resident workers and income from construction employment	Moderate	Contractors to adopt a code of conduct for workers (See COESP for Contractors, Annex VIII). MHMS and contractors will develop and adopt a Code of Conduct for their staff and workers involved in the project, including provisions for SEA/SH prevention. MHMS will develop a curriculum on SEA/SH awareness and prevention and will conduct seminars for their staff and contractors and their workers.
Possible discrimination of migrant workers in benefits	Low	Contractor to conform to the LMP (Annex V)
B. Operations of Health Care Facilities		
Possible denial of basic worker's rights of health care workers	Low	Implement the LMP (Annex V)
Possible discrimination in recruitment, benefits and promotion of women or members of certain ethnic groups	Low	Implement the LMP (Annex V)
Possible hiring of children	Low	Implement the LMP (Annex V)

Potential Risks and Impacts	Rating	Management Measure
Universal accessibility of facilities and services (PWD, elderly, person with infant, pregnant women, etc.)	Low	Ensure the design of hospitals and health clinics always considers principle of universal access

6. PROCEDURES TO ADDRESS ENVIRONMENTAL AND SOCIAL ISSUES

As discussed earlier for the purpose of ES assessment and management, project activities on a particular site can be treated as one subproject. Activities that are part of the establishment of a country-wide system could be also lumped together into one subproject.

Step 1 - *Subproject definition or identification*. Each subproject shall be adequately described in the Screening Form and specified in terms of its objectives, component activities, location, and scale. Hence, a Subproject Description should first be developed.

Step 2 - *ES Screening*. Each Subproject shall undergo ES Screening using the ES Screening Form in Annex I. The purpose of the screening is to determine eligibility (an ineligible activities table is also included in Annex II) of the proposed subproject and to determine the scope and depth of the assessment as well as other requirements with respect to the various applicable World Bank ESSs. Included in the screening is the determination of whether the subproject is required to undergo ESIA under the government regulation. The screening form will first be completed by PMU Environmental and Social Officer/Coordinator based on the Subproject Description developed above. The Subproject Description and the completed Screening Form will be reviewed by the Kiribati Fiduciary Services Unit (KFSU) ES Specialists. If required, the screening outcome will be discussed with the project team and design personnel to identify ways to reduce or avoid any adverse impacts or make modifications of the design in case of ineligible activity and to determine the level of assessment to be undertaken and/or the type of ES instruments to be prepared. If an environmental license is required, the KFSU ES Specialists shall file the application at the MELAD.

The level of assessments or the types of instruments to be prepared shall be proportionate to the level and nature of risks and impacts of the Subprojects. The table below provides a guide for the level of assessments to be undertaken for certain types of projects. The actual instruments to be required shall be determined through discussions with the Project Manager, PMU Safeguards Coordinator and the KFSU ES Specialists based on the completed ES Screening Form (Annex I).

Table 8. Levels of assessments and types of ES instruments required for subprojects/activities

Level of Assessment	Types of Subprojects/Activities
ESIA in accordance with MELAD Environmental License process and WB ESS1 and relevant WBG ESH Guidelines	Subprojects that are in the MELAD's Schedule of Environmentally Significant Activities (ESA) Annex XI)
ESIA in accordance with WB ESS1 The of ESMP of the ESIA should be based on relevant WBG ESH Guidelines	Subprojects involving installation of facilities or network of facilities that handle/process hazardous materials in several locations and the development and implementation of their operational plans/systems (e.g., establishment of health care waste management infrastructure and operational system).

Simple ESMP Matrix using Template (Annex II) based on WBG EHS Guidelines for Construction	Subprojects involving civil works with total footprints of less than 500 sq meters, and not required to submit EIS as per Environment Act 1999 (as amended), i.e., not listed in the ESA (Annex XI).
A simple ESMP Matrix using Template (Annex II), covering OSH and Waste Management, based on *WBG ESHS Guidelines on Health Care Facility*	Subprojects that involve refurbishing an existing specific-purpose facility with new equipment and system (e.g., medical/clinical laboratory, radiology, pharmaceutical laboratory, etc.), and not required to submit EIS as per the amended Environment Act of 1999, i.e. not listed in the ESA (Annex XI)
A simple ESMP Matrix using Template (Annex II), covering Waste Management and OSH Plan based on *WBG EHS Guidelines for Shipping Industry*	Subprojects involving maintenance and operation of seagoing vessels
Due diligence report on environmental and labor practices involved in the production of the materials and/or equipment	Subprojects involving procurement of supplies and materials
ES Screening and Technical Inputs into the design from ES Specialists	Purely capacity building activities Purely technical assistance or policy research (noting that ESF requirements must be integrated in the TORs and associated outputs)

Step 3 - *Conduct of ES Assessment/Preparation of ES Instruments*. Depending on the result of the screening, the subproject may be either required to undertake a full ESIA or to prepare only a simple ESMP matrix (See Annex II). Other documentary (instruments) requirements will also be prepared, if required, such as Resettlement Plan in accordance with the Resettlement Policy Framework (Annex III). The screening result will also define the scope and focus of the assessment. During the preparation of the instruments, the KFSU will consult or cause the documents to be consulted upon by key stakeholders especially the members of the host communities.

Step 4 - *Review and Disclosure of ES Instruments*. All instruments shall be reviewed and approved by the KFSU ES Specialists. Instruments will then be submitted to the World Bank for prior review and clearance (i.e., issuance of No Objection) for disclosure. Final versions of ES instruments shall be disclosed in MHMS Website as well as in the concerned local government offices of the host communities, except for information about specific individual stakeholder (e.g., affected persons, lost assets, value of compensation received, specific complaints, etc.) which should be excluded or redacted from the documents.

Step 5 - *Procurement Due Diligence*. The KFSU ES shall determine if procurement is required for the activity. If so then KFSU shall ensure that the aspects/requirements in the ESMPs and other instruments that are the responsibility of the contractor, shall be incorporated into bidding documents as well as other requirements in accordance with the new World Bank Procurement Framework.

Step 6 - *Implementation of Mitigation Measures*. The management measures in the ES instruments will need to be implemented, monitored, and enforced during the subproject implementation. The PMU ES Coordinator

shall be responsible for implementing the measures with the help of the Subproject environmental and social focal persons.

Step 7 - *Monitoring, Evaluation and Reporting*. Monitoring is required to gather information to determine the effectiveness of implemented mitigation and management measures and to ensure compliance with the approved E&S risk management tool/s. Monitoring methods must provide assurance that E&S risk management tool/s measures are implemented and undertaken effectively. Progress of the implementation will be monitored, including constraints encountered and corrective actions. Any variations from the plan will have to be explained in the monitoring report. Further details are discussed in Section 9.

7. CONSULTATION AND STAKEHOLDER ENGAGEMENT

The main stakeholders are: Ministry of Health and Medical Services Finance, health centers at national, regional and local level, the health services providers (doctors, nurses, etc.) as a collective and as individuals, Ministry of Information, Communication, Transport and Tourism Development (MICTTD), Kiribati Customs Administrations and Enforcement, WHO, UNICEF, New Zealand MFAT, DFAT (Australia), Kiribati Family Health Association, key civil-society organizations, community-based organizations particularly those for women, media outlets, religious groups, health workers unions, communities located close to health facilities, local governments; the landowners and households that will be affected by any land or right-of-way acquistion; and, the vulnerable population (the poor, women, young girls, youth at risks, disables, others,) students, parents, teachers among others.

A Stakeholder Engagement Plan (SEP) has been prepared as Annex IV to this ESMF. The SEP describes the stakeholder engagements that have been undertaken during the conceptualization and preparation of the project, including during the preparation of this ESMF. More importantly, the SEP will set out a culturally appropriate plan for continual stakeholder engagements during the implementation phase of the project.

Consultations held during Preparation: :-<Norma to provide a brief Summary>

Consultation strategy for future involvement in the ESMF: <Norma to provide a brief Summary>

8. IMPLEMENTATION ARRANGEMENTS, RESPONSIBILITIES AND CAPACITY BUILDING

This institutional arrangement for the management of the Project's is illustrated in Figure 3 below. The project will be implemented by the Ministry of Health and Medical Services (MHMS) with financial management, procurement, and safeguards support from the Ministry of Finance (MoF). MISE will also provide technical support in the engineering design of health care facilities while MELAD will provide regulatory and oversight support in land issues and environmental permits and licenses. The project will be managed by the same Project Management Unit (PMU) at MHMS which was established for the COVID-19 Emergency Response Project. The Kiribati Fiduciary Services Unit (KFSU) which is based at MoF will provide technical and oversight support on safeguards.

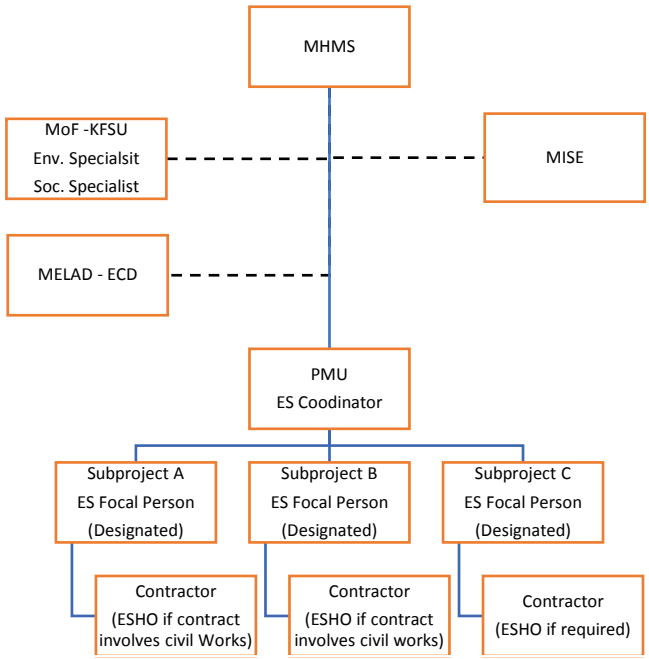

Figure 3. Institutional arrangements for environmental and social risk management

8.1 MHMS -PMU

Overall implementation responsibility rests with Secretary of Health with support from technical departments. The responsible MHMS technical departments include (a) Hospital Services; (b) Public Health; (c) Laboratory; and (d) Pharmacy. The Project Management Unit (PMU) established for the Kiribati COVID-19 Emergency Project (P174219) will be responsible for the (a) the overall administration of the Project, including the preparation of the annual work plan and budgets and preparation of the Project Operations Manual; (b) the overall implementation of Project activities and achievement of Project results with support from the MHMS technical departments; (c) coordination with other Government ministries and stakeholders on all aspects of Project implementation as required; (d) the overall administration of financial management, procurement, environment and social (E&S) risks management, and communication of all Project activities; and (e) the overall monitoring, evaluation and reporting of Project activities.

The PMU will be supported KFSU. The KFSU is based within the Ministry of Finance and Economic Development (MFED) who will provide Financial Management, Procurement, E&S, and Monitoring & Evaluation (M&E) oversight to the Project. The KFSU has engaged a social officer and is in the process of engaging an environmental officer and an environmental and social specialist. The E&S function of the KFSU is relatively new and will require capacity building with respect to the implementation of the World Bank ESF.

The GoK has experience with World Bank financed projects and the MHMS had some training and previous experience regarding the World Bank ESF. The World Bank will continue to provide support regarding ESF capacity building and support for implementation as needed. The PMU, supported by the KFSU, will lead the development of projects E&S instruments, including the completion of a capacity needs assessment, during project preparation including to establish the PMU and KFSU's capacity to manage, train staff and conduct communication campaigns for project investments. The Ministry of Infrastructure and Sustainable

Energy (MISE) will support the project ensuring that construction activities are completed in compliance with the E&S instruments.

8.2 MISE

MISE will provide technical oversight of Component 1.1, by providing technical inputs for the procurement of works and construction designs as well as conducting inspections and monitoring construction to ensure compliance with Kiribati regulations. Specifically, MISE will provide technical support to prepare the detailed engineering designs.

8.3 MoF-Kiribati Fiduciary Services Unit

The KFSU, that is based in the MFED and funded by the Kiribati Outer Island Transport Infrastructure Investment Project (KOITIIP), currently includes one Program Manager, one Procurement Officer and two Accountants and a part time E&S specialist. An international E&S specialist, local environmental officer and local social officer are currently under recruitment. The KFSU currently provides environmental and social support to the Covid ERP and to other World Bank financed projects.

The national Environmental Specialist shall have the following functions:

- Manage the overall implementation of the World Bank environmental policies across the World Bank's Kiribati project portfolio (Environment, Natural Resources & the Blue Economy, Health, Nutrition & Population, Transport etc.).
- Report to all project management on progress, coordination, activities management plan, status of activities, human resource deployment plan etc. to ensure appropriate coordination among the projects as well as tasks within each project.
- Attend World Bank missions, field trips, meetings etc. as required.
- Prepare environmental risk assessments and management instruments, collecting data and conducting field work as required, for consistency with World Bank policy and Kiribati legislation.
- Follow the Kiribati Environmental License process to identify what licenses are required and then prepare the appropriate applications and documents (EIA etc.).
- Provide advice to the PMU on key environmental issues and aspects of the Project in a timely manner, including general environmental advice and advice on the implementation of safeguards instruments.
- Ensure project-level citizen and stakeholder engagement and disclosure processes to ensure World Bank policy and community expectations are met.
- Assist with implementing the GM. Assist with resolving difficult grievances that cannot be resolved by the MHMS.
- Input to monthly and six-monthly monitoring reports on the environmental, social, health and safety (ESHS) performance of the Project.
- Develop and maintain a capacity building plan for the Kiribati portfolio. Provide ongoing training, awareness raising, on the World Bank ESF to IAs.
- Review and contribute to TOR for technical assistance, Supervising Engineers and other consultants or specialists engaged by Projects ensuring the E&S risk management instruments and World Bank ESF and safeguards policies are adequately covered, as necessary.
- Manage the oversight of project consultants, in the case that specialist consultants are required, and contractors including Civil Works Contractors including regular monitoring and assurance activities.
- Provide support and training for Civil Works Contractors to prepare construction waste management and health and safety plans. Review and approve Contractor's waste management and health and safety plans.

- Manage environmental risks in procurement.
- Support the PMU to manage any significant environmental risks and/or incidents on the Project.
- Develop standard operating procedures (SOPs) for environmental risk management (jointly with the Social Specialist).
- Conduct other ESHS and CE related activities as required.

The Social Specialist shall have the following functions:

- Manage the overall implementation of the World Bank social policies across the World Bank's Kiribati project portfolio (Environment, Natural Resources & the Blue Economy, Health, Nutrition & Population, Transport etc.).
- Report to all project management on progress, coordination, activities management plan for all social management plans including as relevant, Resettlement Plans (RPs), Resettlement Policy Framework (RPF), etc. in accordance with agreed monitoring requirements, status of activities, human resource deployment plan etc. to ensure appropriate coordination among the projects as well as tasks within each project.
- Attend World Bank missions, field trips, meetings etc. as required.
- Provide input to projects including preparing social risk assessments, collecting relevant data, preparing social instruments, conducting field work, preparing TORs for consultants, supervising consultants, and contributing to the project design.
- Follow the Kiribati Environmental License process to identify what licenses are required and then prepare the appropriate applications and documents (EIA etc.).
- Provide advice to the PMU on key social issues and aspects of the Project in a timely manner, including general social advice and advice on the implementation of safeguards instruments.
- Prepare social assessments and instruments, and/or supervise the preparation of social assessments and instruments in the case that specialist consultants are required.
- Ensure project-level citizen and stakeholder engagement and disclosure processes to ensure World Bank policy and community expectations are met.
- Coordinate the GM system and assist with resolving difficult grievances that cannot be resolved by the MHMS.
- Assist as necessary, with the procurement of additional social support staff and / or consultants, by preparing TOR and reviewing CVs / proposals / candidates.
- Manage the oversight of project consultants, in the case that specialist consultants are required, and contractors including Civil Works Contractors including regular monitoring and assurance activities.
- Input to monthly and six-monthly monitoring reports on the environmental, social, health and safety (ESHS) performance of the Project.
- Develop and maintain a capacity building plan for the Kiribati portfolio. Provide ongoing training, awareness raising, on the World Bank ESF to IAs.
- Provide support and training for Civil Works Contractors to prepare construction waste management and health and safety plans. Review and approve Contractor's waste management and health and safety plans.
- Manage social risks in procurement.
- Support the PMU to manage any significant social risks and/or incidents on the Project.
- Support the development of SOPs for social risk management.
- Conduct other ESHS and CE related activities as required.

There is also an international ESHS Specialist, in the KFSU and reporting to the MFED, who will provide remote support to the national KFSU E&S Specialists. The functions of the international ESHS Specialist are as follows:

- Provide expert input to projects that are under preparation – this includes preparing risk assessments, collecting relevant data, preparing environmental and social instruments, conducting field work once travel restrictions relating to the COVID-19 pandemic are lifted, preparing TOR for consultants, supervising consultants, and contributing to the project design.
- Provide expert advice to the Project PMU's and the Kiribati government on key environmental and social issues and aspects of all Projects in a timely manner, including general environmental and social advice and advice on the implementation of E&S risk management instruments.
- Participate (remotely whilst travel restrictions are in place) in semi-annual Project Supervision missions, representing KFSU on environmental, safety and social aspects.
- Provide advice on the selection of the Civil Contractor(s), including review of capacity for implementing environmental aspects of the ESMF and supporting documents and ensure that the appropriate E&S requirements are included in bidding documents. Support the review and approval of Contractor's waste management and health and safety plans.
- For all Projects, assist, if necessary, with the procurement of additional environmental and social support staff and / or consultants, by preparing TOR and reviewing CVs / proposals / candidates.
- If required, support the PMU to manage any significant environmental or social incidents on any Project.
- Prepare environmental and social assessments and instruments, and / or supervise the preparation of environmental and social assessments and instruments in the case that specialist consultants are required, for new Projects.
- Provide formal and ad-hoc training, mentoring and other capacity building to PMU's, government staff and other stakeholders on the World Bank ESF and the Project E&S risk management instruments.
- Provide training and mentoring to the nationally hired KFSU E&S Specialists, including developing and implementing a training and capacity building plan.
- Development of SOPs for the KFSU, Project PMU's and others relating to environmental and social risk management and OHS.
- Support/review monthly and six-monthly monitoring reports on the environmental, social, health and safety (ESHS) performance of the Project.
- Other ESHS and CE related tasks as required.

8.4 MELAD-Environmental Conservation Department (ECD)

The ECD have overall accountability for environmental and waste management in Kiribati and have previously supported the MHMS regarding the construction and operation of the new CMS under the Covid Emergency Response Project. The ECD have existing experience with the World Bank Safeguards Policies and Environmental and Social Framework (ESF) from working on previous World Bank funded projects such as the KOITIIP and the COVID ERP. However, ECD advises in their Environmental License Guideline that the environment licensing process can take several months (3-4 months at the minimum) and that the time required for the PEO's review and public display period will be four to five months (ECD 2019). Therefore, they advise that an environment license application should be lodged as early as possible to avoid delays.

8.5 Subproject/Activity Level Environmental and Social Risk Management Responsibilities

Contractors. Construction works will be undertaken by contractors. Contractor(s) will be required to comply with the subproject's E&S risk management plans and procedures, including the subproject E&S instrument, WMP, IPCP and LMP, as well as local legislations and this will be specified in the contractor's agreements.

Contractor(s) will be expected to disseminate and create awareness within their workforce of environmental and social E&S risk management compliance and undertake any staff training necessary for their effective implementation. Where contractors do not have existing environmental staff, the KFSU E&S Specialists, supported by the World Bank E&S team, will make arrangements for adequate capacity building within the contractor's workforce.

Contractor(s) will also be required to prepare and comply with CWMP(s) and construction health and safety plan(s) in compliance with both the ESMF and local legislation and submit those plans to the KFSU E&S Specialists for approval, prior to the commencement of demolition or construction activities and to take all necessary precautions to maintain the health and safety of their personnel. The contractor(s) will appoint a health and safety officer at site, who will have the authority to issue directives for the purpose of maintaining the health and safety of all personnel authorized to enter and or work on the site, to take protective measures to prevent accidents, to ensure suitable arrangements are made for all necessary welfare and hygiene requirements, to undertake worker training, and be a focal point to deal with COVID-19 issues. Contractors will be briefed on the GM and required to refer any grievances to the Social Specialist who will coordinate the GM
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Subproject ES focal persons. The focal person is the PMU Safeguards Team's representative on the ground. He/she will be responsible for ensuring that contractors implement the mitigation measures in the CESMP as approved. As such, he/she will check on the contractor's activities on a regular basis and constantly apprise the PMU of the status of the activities, the compliance of contractor to agreed measures, and other ES management issues, including any environmental and OHS incidents.

8.6 Capacity Building

The GoK has experience with World Bank financed projects including the COVID ERP that is being completed under the ESF.

The incoming KFSU E&S Specialists may have differing level of familiarity with the WB ESS's and Procedures and may need ongoing support, training, and technical assistance to implement the Project E&S documents and prepare project activity instruments during project implementation. It is expected that enhanced oversight from the Bank E&S team will be required, and a capacity assessment will identify where training and further capacity building will be needed. Implementation support will include: (a) capacity building for KFSU and MHMS staff on WB implementation and requirements; (b) an implementation support mission every six months, once international travel has resumed to Kiribati; (c) interim technical discussions and site visits by the WB; (d) monitoring and reporting by the implementation team on implementation progress and achievement of results; (e) annual internal and external financial audits and FM reporting; and (f) periodic procurement post review. In the event of the inability of relevant staff to travel to Kiribati to undertake implementation support, the use of audio/video conferencing, as has been the case during Project preparation, will continue in order to ensure "just in time" support to the MHMS and KFSU. The WB will also maintain a close dialogue with the KFSU E&S Specialists and ensure implementation support for environmental and social risk management and stakeholder engagement when needed. Further capacity assessments during project implementation will identify where training and further capacity building will be needed. Capacity building with respect to waste management and infection prevention and control has been integrated into project design.

8.6 ESMF Implementation Cost Estimate

The costs of ESMF implementation include training of PMU Safeguards staff and sub-project focal persons on the ESMF, including hands-on training on the conduct of screening and ES and OHS audits of project sites. It will also include travel and accommodation of staff during the conduct training, coordination meetings, site visits and inspections of project sites, including participation in the World Bank ISM.

The KFSU E&S Specialists will also support the E&S risk monitoring for other World Bank projects. Operating costs from other World Bank projects will be mobilized for E&S risk management activities and travel for training, consultations, and Project supervision and monitoring activities will need to be coordinated with these projects wherever possible.

The E&S Specialists in the KFSU will not have a standalone, earmarked budget to complete E&S risk management activities such as the preparation of activity level E&S risk management instruments. Instead, the cost is embedded in the KFSU E&S Specialists budgets.

Table 9. ESMF Implementation Cost Estimates

Cost Item	Particulars	Cost USD
E&S Officer/Coordinator at MHMS KHSSP PMU	Hiring of one (1) fulltime E&S Officer	$40,000
Seminar (Familiarization of the ESMF: Conduct of ES Screening, Preparation of ESMP for small subprojects, and conduct of ES and OSH audits.)	One (1) 3-day familiarization seminar at the start of the project implementation. Cost includes travel and accommodations and production of training materials. Trainers: 2 ES Safeguard Specialists of KFSU Trainees: PMU Safeguard Officer, Other PMU Staff, Focal persons of Sub-projects, about 10 pax @500/pax	$5,000
Implementation of the SEP and GRM (refer to SEP for details)	See SEP for details	$15,000
Implementation of RPF (refer to RPF for details) - Preparation of Resettlement Plan (RP)	See RPF for details	$45,000
Coordination meetings among safeguard staff of PMU, KFSU and Subproject safeguards focal persons.	At least one (1) session per year during first two (2) years. Travel and accommodations for 15 pax at $500/pax.	$15,000
Subproject preparation: ES Screening, ESMP preparation, review instruments and subproject proposals and participation in World Bank ISM	At least 10 subprojects, 3 pax per subprojects for 1 visit per subproject, at $1000/pax per visit (including travel to outer islands).	$30,000
Hiring of consultant for the conduct of detailed ESIA for subprojects that would require full ESIA study and Environmental License Application	Assuming at least three (3) subprojects would require full ESIA at $5,000 each.	$15,000
Compliance monitoring/ES OSH audits, and participation in World Bank ISM Travel and accommodations of staff involved	Travel and accommodation for 2 KFSU ES Specialists and 1 PMU Safeguards Officer @2000/pax, 2 times a year for four years	$48,000
Total		$213,000.00

9. MONITORING AND EVALUATION

The monitoring will focus on the status of the implementation of ESMF and the agreed mitigation measures as per individual activity ESMP. The KFSU shall undertake regular monitoring on the status of the implementation of this ESMF.

Quarterly Reports. The PMU Environmental Safeguards Coordinator shall prepare quarterly monitoring and evaluation reports on the implementation of this ESMF. The report shall summarize the overall progress in Government's fulfilment of the ESCP, including detailed accounts of the status of the implementation of this ESMF and the project's compliance with the various other requirements of the following subsidiary instruments:

- Resettlement Policy Framework (Annex III)
- Stakeholder Engagement Plan and the Grievance Redress Mechanism (Annex IV)
- Labor Management Procedures/Plan (Annex V)
- ESIA/ESMP of Subprojects (to be prepared for each subproject during Project implementation)
- Resettlement Plan of Subprojects (to be prepared during Project implementation for Subprojects which would involve land acquisition)

The report will also contain: (i) general status of the ESCP commitments; (ii) the status of the implementation of key mitigation measures on major subprojects, and any issues and constraints encountered in their implementation; (iii) the number and nature of the grievances and their status; and (iv) any incidents/accidents with adverse impacts and the actions taken to address it and prevent reoccurrence. The PMU quarterly reports shall be submitted to the KFSU and will be reviewed and validated by the KFSU Environmental and Social Safeguards Specialists.

Semi-Annual Reports. Based on the PMU quarterly reports, and their own evaluation of the status, performance of the project, the KFSU Environmental and Social Safeguards Specialist will prepare semi-annual reports on overall status of the implementation of the ESMF and the subsidiary instruments and the project's compliance with the applicable World Bank ES Standards requirements. The semi-annual reports will be submitted to the World Bank in time for its regular Implementation Support Missions.

Monitoring of Environmental Parameters/Indicators. The activities are small scale and do not warrant quantitative monitoring of environmental parameters. The impacts on the environment, if any, would be very localized and occur mainly during construction. Thus, monitoring on the status of mitigation measures would suffice. If measures are in place, project impacts on environmental parameters during operations, would also be minor and should be covered by regular monitoring functions of the MELAD.

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ANNEX I - ES SCREENING FORM FOR KHSSP SUBPROJECTS

[This form applies to all subprojects as defined in the ESMF. Before a subproject is Screened using this form, a brief Subproject Description shall be prepared. This form is to be used by the KFSU E&S Specialists to screen activities and/or subprojects under HSSP for eligibility and to determine the scope and depth of the assessment to be undertaken. Once completed, the forms will be signed and kept in the Project ESF file and included in the ESF implementation progress report to be submitted to World Bank (WB). The Subproject Description should always be attached to this Form.]

Ineligible Activity List

The following type of activities shall not be eligible for financing under the Project:

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

A. Subproject Identification

Activity/Subproject Title	
Activity Location	
Activity Proponent	
Estimated Investment	
Start/Completion Date	

[Please Attach the Subproject Description]

B. Eligibility

[Please check the appropriate Column "Yes", "No" or "DK", only. In the remarks column make a clear note about implication of the answer.]

Eligibility Criteria	**Yes/No /DK**	**Remarks (If answer is yes, the Activity is not eligible under HSSP If D.K. indicate when additional information becomes available.)**
1. Will the proposed Subproject cause any significant loss or degradation of critical natural habitat as defined under World Bank ESS6?		
2. Will the proposed Subproject cause any relocation of homes and/or loss of major sources of livelihood of more than five (5) families?		
3. Will the proposed Subproject affect lands or rights of certain groups of people that meet the definition of indigenous people under World Bank ESS7?		
4. Will the proposed Subproject/Activities alter any cultural heritage site recognized officially by the national government or locally and informally by members of the community?		
5. Will the proposed Subproject have activities within (internationally) disputed territories?		
6. Does the proposed Subproject involve use of child labor?		
7. Does the proposed Subproject involve the use of forced labor?		

[Note that except for child labor and forced labor, the above criteria have been adopted based on the practicality of the pursuing the proposed Subproject as against the safeguards and the capacities that would have been required of implementing agencies. Except for child labor and forced labor as defined under ESS2, none of the criteria above constitute absolute prohibitions under World Bank ESF.]

Evaluation:

[ ] The Subproject is not eligible for funding under the project unless the following conditions are met [*Indicate any requirements for modifying the proposal to meet the above criteria such as a change in location, reduced scale, etc.*]:

_____

_____

_____

[] The Subproject eligibility cannot be determined pending additional information on:

_____

[ ] The Subproject is eligible for funding under the project.

C. Requirements and Scope of Assessments

Questions	**Yes/No /DK**	**Requirements**
1. Does the proposed Subproject/Activities fall within MELAD's list of environmentally significant projects in the Schedule of Environmentally Significant Activities (ESA)?		If yes, MELAD license and ESIA are required
2. Does the type of work involve permanent loss of land or coastline, or deal with any polluting materials?		If yes, MELAD license is required and the Subproject must comply with any further government requirements.
3. Does the subproject/activity involve construction/demolition that includes significant (>500 sq meter) ground footprint and earthworks, installation of new systems? --If yes ESIA is needed ESIA requirement, ESHG		If yes, ESIA is required If no, simple ESMP is required
4. Does the subproject/activity involve permanent land acquisition? --RP requirement in accordance with the RPF		If yes, a Resettlement Plan is required following the RPF
3. Does the subproject/activity involve hiring of workers labor?		If yes, the LMP is applied
4. Does the Subproject/Activity involve collection, handling, transport and/or disposal of infectious waste during construction and/or operation phase?		If yes, a WMP is required which could be embedded in the ESMP or a standalone document depending on the scale.
5. Does the Subproject/Activity involve operation of Medical Laboratory?		If yes, WMP and appropriate OHS system is applied as per GIIP
6. Does the Subproject/Activity involve operation of Medical Radiology unit?		If yes, appropriate OHS system is applied per GIIP
5. Does the subproject/activity involve installation and operation of specialized medical equipment?		If yes, appropriate training of personnel is required and OHS system installed.
6. Does the subproject/activity operation and maintenance of sea going vessel?		If yes, the WB EHS Guidelines on Shipping should be consulted. Subproject must comply with Maritime Safety regulations. OSH management plan and WMP required. Naval architect to be consulted and provide input into technical specifications to ensure vessel is fit for purpose.

7. Potential use of goods and equipment or raw materials that are suspected to be made or produced with child or forced labor?		If yes, conduct due diligence on suppliers. Only suppliers who can show sufficient evidence to the contrary will be accepted.
8. Does the subproject/activity involve transboundary transport of potentially infected specimen, samples, or materials (e.g., from collection point to testing laboratories)?		If yes, transport should be performed in accordance with WHO interim guidelines on specimen collection and shipment.
9. Is the proposed subproject/activity located adjacent or reasonably near any ecologically sensitive areas?		If yes, ESIA/ESMP should include an assessment of the subproject/activity's impact to the sensitive area?
10. Is the activity located in the vicinity of any known cultural heritage site or structure?		If yes, ESIA/ESMP should include assessment of the subproject's impact to the cultural heritage structure or site.
11. Does the subproject involve burning of waste or incineration?		If yes, an ESIA is required. The ESIA must assess the air quality impacts based on the quantity of wastes and identify feasible mitigation options. The ESMP must reflect the agreed mitigation measure.
11. Does the activity area present considerable Gender-Based Violence (GBV) and Sexual Exploitation and Abuse (SEA) risk?		The ESIA/ESMP must address GBV.

Summary of Requirements

The Subproject shall prepare (Check all that apply):

____ESIA with ESMP
____LMP
____Simple ESMP Matrix
____Resettlement Plan
____Validated Screening Form

Note: (1) All subprojects or activity must set up their own community-level GRM or at least be connected to a project-level GRM. (2) All subprojects must also conduct consultation with stakeholders in the host communities, aside from the project-level stakeholder engagement provided in the SEP.

ANNEX II - ESMP MATRIX TEMPLATE FOR SUBPROJECTS

[This ESMP Matrix is only for Subprojects that as per ES Screening would not need to undergo an ESIA Study but still must address some moderate environmental and social risks and impacts. Subprojects that need ESIA will have ESMPs that are part of their ESIA reports. Subprojects that are screened to have no significant environmental and social impacts and risks need not prepare an ESMP Matrix. Always attach a copy of the validated Screening Form of the Subproject to this ESMP Matrix. The final approved ESMP Matrix will also serve as the Monitoring Checklist during compliance monitoring. Compliance Monitoring by PMU ES Coordinator, KSFU ES Specialists is required under the ESMF. MELAD may also do their spot monitoring.]

I. Summary of Subproject Activities and Sites

[Briefly describe the subproject. Enumerate the various activities involved and provide indicator of their scales such as area, planned capacity, and estimated costs. Or, attached Subproject Description, if any.]

Component Activities of the Subproject	**Describe Type**	**Size or Scale Parameter (i.e., area, volume, cost, etc.)**
1. Civil works	Example: Hospital building, Office building, Health Center, Water and Sanitation, etc.	Example: Lot area, Floor Area,
2. Operation of facility	Example: Hospital, Clinical Lab or Radiology Unit, Health Center, Sea Ambulances	Example: Capacity
Others...		

[Briefly describe the subproject sites, area of influence.]

Environmental characteristics	**Description**
Existing land use	
Nearest settlements	
Elevation	
Distance from the beach	
Etc.	

II. Risks and Impacts and Management Measures

[The following are only indicative examples of Subproject impacts.
1. Remove items that are not relevant to the Subproject and update, develop and improve on the risks and impacts, management measures, means of implementation, and responsibilities.
2. Check on "H" for High, "S" for significant, "NS" for not significant and "None" for no impact/risk.
3. For those impacts and risks assessed to be "H" or "S", describe the mitigation or management measures to be adopted.
4. Add more impacts/risks if there are any.]

A. Planning and Design/Procurement Specification Phase Risks

Risks and Impacts	**Check**	**Mitigation Measures**	**Means of Implementation and timing***	**Respon-sible**
Involuntary loss of or loss of access to home, land, and non-land assets, resulting from Subproject land requirement	_H _S _NS _None	• Avoid or minimize by maximizing use of existing government lands through change in location, orientation, or design • Explore alternatives arrangements to land acquisition such as long-term lease • Meaningful consultations with affected parties.	Alternative location/design If involuntary loss cannot be avoided, prepare an abbreviated	MHMS KFSU ES

Risks and Impacts	Check	Mitigation Measures	Means of Implementation and timing*	Respon-sible
			resettlement plan based on the RPF	
Destruction of or adverse impact on natural habitat due to conversion of land use into either (i) site of building/facility; (ii) extraction of embankment materials or aggregates	_H _S _NS _N	• Avoid or minimize impacts by utilizing built-up or previously disturbed areas with no significant biodiversity value • Utilize existing borrow pits and aggregate quarry sites • Restore and revegetate borrow pits/quarry sites after use, if located in habitat areas	Design and location of the facilities Location of borrow pits/quarries Borrow pit restoration plan	MHMS KFSU ES
Risks of seismic or cyclone damage due to inadequate structural design of buildings/facility	_H _S _NS _None	• The design of the facility must comply with the national building code and GIIP standards *[please list applicable standards]*	Approved structural designs Building permit	MHMS KFSU
Risks of damage/ inoperability during storm surges and tsunamis	_H _S _NS _None	• Select elevated areas as site or elevate ground level with embankments • Place vital or sensitive equipment, and sanitation facilities (septic tanks), above the baseline flood levels	Approved engineering design Building permit Historical flood level of the site	MHMS KFSU
Life and fire risks on the facility	_H _S _NS _None	• Ensure that design complies with Kiribati's fire safety regulations • Design conforms with the GIIP for the facility *[please list applicable standards]*	Approved Building Permit Engineering Design	
General safety risks due to lack of consideration of the purpose of the building and facility	_H _S _NS _None	• Design specifications to be made by qualified expert • Use GIIP of the type of facility *[please list applicable standards]*	Approved engineering design Qualification of the design engineer	MHMS KFSU
Health and safety risks from procured equipment (e.g., boat ambulance, medical/lab equipment)	_H _S _NS _None	• Specifications of equipment considers design features for life and fire safety and GIIP • Procurement specifications to be made by qualified expert • Adequate safety at sea training	Equipment specifications Equipment operation's manual	MHMS KFSU WB
The health care facility as designed may be less accessible to some groups of people, people with disabilities, etc.	_H _S _NS _None	• Building/facility must always incorporate the principle of universal access in the design	Universal design features such as stepless entrance, wheelchair ramps, etc	MHMS KFSU
Risk of exposure of workers and residents to hazardous materials during demolition of existing structures	_H _S _NS _None	• Identify presence of hazardous materials in the structure to be demolished (e.g., asbestos, PCBs, wastes) • Hire services of professionals for the removal and disposal of hazardous materials in the old structure	List of hazardous materials to be removed Contract removal and disposal of hazardous materials	MHMS KFSU WB

H- high; S=Significant; NS=Not significant; None=No Impact

*Means of Implementation is the instrument/plan that addresses the risk/issue.

B. Risks and Impacts, and Management Measures during the Construction Phase

Risks or Impacts	Check	Management Measure	Means of Implementation*	Respon-sible
Construction-related environmental and social impacts	_H _S _NS _None	• Require contractors to prepare a Contractors ESMP (CESMP) based on this ESMP matrix and COESP for construction (Annex X)	Contractor's contract Approved CESMP	Contracto r MHMS KFSU

Risk of exploitation of child labor	_H _S _NS _None	• Require contractors to comply with national labor laws and fundamental ILO conventions as specified in the LMP	Contractor's contract (code of conduct)	Contractor MHMS KFSU
Exposure of construction workers to occupational health and safety hazards at construction site	_H _S _NS _None	• Require contractors to prepare a CESMP based on this ESMP and COESP for construction	Contractor's contract	MHMS KFSU
Workers of the Subproject may be denied basic rights	_H _S _NS _None	• Require contractors to comply with national labor laws and fundamental ILO conventions as specified in the LMP	Contractor's contract	Contractor MHMS KFSU
Exposure of local community to construction hazards	_H _S _NS _None	• Require contractors to prepare a Contractors ESMP (CESMP) based on this ESMP matrix and COESP for construction	Contractor's contract	Contractor MHMS KFSU
Local communities, residents may be exposed to increased GBV	_H _S _NS _None	• Require contractors to comply with national labor laws and fundamental ILO conventions as specified in the LMP • Include into Contractor's code of conduct	Contractor's contract	Contractor MHMS KFSU

H- high; S=Significant; NS=Not significant; None=No Impact

*Means of Implementation is the instrument/plan that addresses the risk/issue.

C. Risks and Impacts, and Management Measures during the Operations Phase

Risks and Impacts	**Check**	**Management Measures**	**Means of Implementation***	**Responsible**
1. Risk of contamination of the environment and exposure of facility workers and community with hazardous and infectious waste* from the health care facility operation	_H _S _NS _None	• Set up a waste management system based on GIIP that involves waste segregation and safe handling and disposal of hazardous and infectious wastes • Refer to the KHSSP Waste Management Guidelines • Integrate or align the facility's waste management system into national HCWM plan under Component 2 • *[Enter any facility-specific measures below, if there are any based on the type, location, and situation of the facility]*	Waste management system (i.e., the Kiribati HCWM)	MHMS KFSU MELAD
(a) Water pollution - contamination of drinking water source	_H _S _NS _None	• (Enter specific management measure if there is any)		Facility Operator
(b) Soil pollution, non-biodegradable waste put in landfills	_H _S _NS _None	• (Enter specific management measure, if any)		Facility Operator
(c) Air pollution—burning emissions of dioxins and furans	_H _S _NS _None	• (Enter specific management measure, if any)		Facility Operator
(d) Public sensitivity - offensive sight	_H _S _NS _None	• (Enter specific management measure, if any)		Facility Operator
(e) Physical injuries to physical from sharps	_H _S _NS _None	• (Enter specific management measure, if any)		Facility Operator
(f) Physiologic injuries due to exposure with toxic, corrosive, flammable, and reactive chemicals	_H _S _NS _None	• (Enter specific management measure, if any)		Facility Operator
(g) Infections due to exposure to contaminated materials, wastes and other agents	_H _S _NS _None	• (Enter specific management measure, if any)		Facility Operator
(h) Occupational hazards for healthcare professionals (workplace acquired infections)	_H _S _NS	• (Enter specific management measure, if any)		Facility Operator

Risks and Impacts	Check	Management Measures	Means of Implementation*	Responsible
	_None			
(i) Occupational hazards to cleaning/ housekeeping keeping staff	_H _S _NS _None	• (Enter specific management measure, if any)		Facility Operator
(j) Hazards to the community, waste pickers/scavengers and children playing in the contaminated area	_H _S _NS _None	• (Enter specific management measure, if any)		Facility Operator
2. Exposure workers and patients/clients of the health care facility to general and facility-specific occupational health and safety hazards during normal operation or due to accidental spills or equipment malfunction	_H _S _NS _None	• Develop and implement an OHS protocol for the facility • Training of staff on proper equipment use • Implement an appropriate maintenance program • *[Enter specific mitigation management measures below]*	OSH Plan for the facility	MHMS KFSU MELAD
(a) Physical hazards	_H _S _NS _None	• *[Identify source and describe any specific mitigation measure]*		Facility Operator
(b) Electrical hazards	_H _S _NS _None	• *[Identify source and describe any specific mitigation measure]*		Facility Operator
(c) Chemical hazards	_H _S _NS _None	• *[Identify source and describe any specific mitigation measure]*		Facility Operator
(d) Infectious agents	_H _S _NS _None	• *[Identify source and describe any specific mitigation measure]*		Facility Operator
(e) Ionizing radiation	_H _S _NS _None	• *[Identify source and describe any specific mitigation measure]*		Facility Operator
3. Life and fire safety during operations	_H _S _NS _None	• Compliance with national fire regulations • Provision of fire extinguishers and other firefighting equipment		Facility Operator
4. Risk of damage and inoperability during natural disasters such as storm surges and cyclone winds, or tsunamis	_H _S _NS _None	• Adopt a natural disaster-resilient design (see design measures above) • Plan for and implement contingencies during disasters	Facility disaster contingency and response plan	MHMS KFSU
5. Potential denial of basic worker's rights to health care facility workers	_H _S _NS _None	• Comply with the country labor laws and implement the project LMP	LMP	MHMS KFSU
6. Release of fuel, lubricants, and other petroleum-based products into the sea from sea going vessel	_H _S _NS _None	Provide proper storage of waste oils, and practice good housekeeping and regular maintenance of engines		
7. Toxic non-fouling coating materials for boat's hull may contaminate local waters	_H _S _NS _None	Use alternative non-toxic coating (Refer to WB EHSG for Shipping)		
8. Release of domestic wastewater into the ocean from sea going vessels	_H _S _NS _None	Comply with International Convention for the Prevention of Pollution from Ships (MARPOL 73/78, as amended)		
9. Generation of health care waste on board sea going vessels	_H _S _NS _None	Integrate Ambulance health care waste into the HCWM system		

10. Occupational health and safety on board sea going vessels	_H _S _NS _None	Follow minimum standards (Refer to WB EHSG for Shipping)		
11. Community health and safety on board seagoing vehicle, including life safety and fire safety.	_H _S _NS _None	Comply with Maritime Safety regulations (Refer to WB EHSG for Shipping) Safety at sea training required for all personnel using sea ambulance.		

H- high; S=Significant; NS=Not significant; None=No Impact
*Means of Implementation is the instrument/plan that addresses the risk/issue.

III. Monitoring

[Include:
1. *Monitoring objectives*
2. *A specific description, and technical details, of monitoring measures, and when corrective actions might be required*
3. *Monitoring and reporting procedures]*

IV. Implementation Arrangements and Capacity Development/Training

[Briefly describe institutional arrangements to implement mitigation measures and the associated monitoring and note any training or capacity building that will be required to support their implementation]

V. implementation Schedule and Cost Estimates

[provide a summary of the schedule for implementing the above mitigation measures and the expected capital and recurring costs]

ANNEX III- RESETTLEMENT POLICY FRAMEWORK
(See Separate Document)

ANNEX IV- STAKEHOLDER ENGAGEMENT PLAN
(See Separate Document)

ANNEX V - LABOR MANAGEMENT PROCEDURES
(See Separate Document)

ANNEX VI - INFECTION PREVENTION CONTROL

Infection Prevention and Control (IPC) is a practical, evidence-based approach primarily preventing patients and health-care workers from being harmed by avoidable infections and hospital outbreaks. IPC is also used to protect other workers involved in non-healthcare activities such as construction, waste management, and community engagement activities. This IPCG contains detailed procedures, based on World Health Organization (WHO) guidance, for proper infection prevention and control for construction workers and the PMU / KFSU staff. The IPCG applies to all construction activities funded under the Project as well as any stakeholder engagement and consultation activities or inter island travel undertaken by the PMU / KFSU staff. IPC operational activities (e.g., health centres and KDH) will be addressed through ES screening and TA activities included in Component 2.]

I. GENERAL

This IPC addresses threats of infection from COVID-19, the vector-borne diseases which are prevalent in the pacific islands (i.e., Dengue, Zika and Chikungunya) and STDs, noting that the preventive measures for COVID are also effective in preventing transmission of other infectious respiratory diseases such as TB.

A. COVID-19

The main routes of transmission of COVID-19 are respiratory droplets and direct contact with the virus. Any person in close contact with an infected individual is at risk of being exposed to potentially infective respiratory droplets. Precautions to prevent transmission of COVID-19 relevant in the context of the Project include hand hygiene, physical distancing, and the use of appropriate equipment to minimize the chance of infection (gloves and masks).

1. Hand hygiene

Hand hygiene is extremely important to prevent the spread of the COVID-19 virus. If hands are not visibly dirty, the preferred method is frequent cleaning using an alcohol-based hand rub for 20−30 seconds using the appropriate technique. When hands are visibly dirty, as they often are during construction work, they should be washed with soap and water for at least 20 seconds using the appropriate technique. If soap or alcohol-based hand rub is not available using chlorinated water (0.05%) for handwashing is an option but requires care to avoid causing dermatitis (See Annex 1 for WHO hand washing posters).

In addition, hand hygiene should be performed in the following situations:

- After coughing or sneezing
- When caring for someone who feels sick
- Before, during or after you prepare food
- Before eating
- After toilet use
- When hands are visibly dirty, and
- After touching eyes, nose, or mouth.

Hand hygiene materials. All construction sites and areas used for stakeholder engagement activities should provide hand hygiene stations. Functional hand hygiene stations should be present in areas where waste is handled, within 5m of toilets, food preparation areas, at the entry/exit of the site/building, and other public areas. Hand hygiene stations can consist of either water, such as sinks attached to a piped-water supply, refillable water reservoir or clean, covered buckets with taps equipped with plain soap or alcohol-based hand rub dispensers where running water is not available. Where alcohol-based hand rub or bar soap is not feasible, a liquid soap solution, mixing detergent with water can be used. The ratio of detergent to water will depend on types and strengths of locally available product. Soap does not need to be antibacterial, and evidence indicates that normal soap is effective in inactivating enveloped viruses, such as coronaviruses. Alcohol-based hand rub should contain at least 60% alcohol. Such products should be certified and, where supplies are limited or prohibitively expensive, can be produced locally according to WHO-recommended formulations.

When soap or alcohol-based hand rub are not available, the use of ash or soil can be considered and has shown to be effective in some cases. Ash may inactivate pathogens by raising the pH. However, in communities with limited sanitation services, soil may be faecally contaminated, and thus it is important to weigh the benefits against the risk of contaminating hands. Finally, washing with water alone, although not as effective as using soap or alcohol-based rub can result in reductions in faecal contamination on hands and in diarrhoea[5]

When washing hands with soap and water, it is preferable to use disposable paper towels to dry hands. If these are not available, use clean towels and replace them frequently or allow hands to air-dry.

2. Physical Distancing

Physical distancing helps limit the spread of COVID-19. This means keeping a distance of at least 1m from each other and avoiding spending time in crowded places or in groups. Construction sites should follow national health advice and consider implementing the following to assist with physical distancing:

- Decreasing the size of work teams.
- Limiting the number of workers on site at any one time.
- Changing to a 24-hour work rotation.
- Adapting or redesigning work processes for specific work activities and tasks to enable physical distancing, and training workers on these processes.
- Consider changing canteen layouts and phasing mealtimes to allow for physical distancing.

PMU and KFSU Staff should follow national health advice and limit group sizes. Adequate space should be sought for community meetings to ensure that people can stay at least 1 m away from others.

3. Equipment to Prevent Infection

[5] Water, sanitation, hygiene, and waste management for the COVID-19 virus Interim guidance 23 April 2020 https://apps.who.int/iris/bitstream/handle/10665/331846/WHO-2019-nCoV-IPC_WASH-2020.3-eng.pdf (accessed 23 April 2020)

In the context of COVID-19, this includes masks and gloves to protect workers from infected droplets. Gloves must be appropriate for construction work. Workers should at a minimum wear a face mask if they are sick, if they have been in contact with someone who is sick, in accommodations, and in break rooms.

B. Dengue, Zika and Chikungunya

There is a significant presence of Dengue, Zika and Chikungunya in Kiribati and Pacific Islands in General. These diseases are transmitted by Aedes mosquitoes. Infection prevention control would involve disease surveillance, prevention of mosquito breeding around the workplaces and communities, applying community personal protection and community engagement.

1. Prevention of mosquito breeding around the area

- Preventing mosquitoes from accessing egg-laying habitats by environmental management and modification.
- Disposing of solid waste properly and removing artificial man-made habitats that can hold water.
- Covering, emptying, and cleaning of domestic water storage containers on a weekly basis.
- Applying appropriate insecticides to water storage outdoor containers.

2. Personal protection from mosquito bites (during the day and early evening)

- Using of personal household protection measures, such as window screens, insecticide treated materials, coils, and vaporizers
- Using window screens, door screens and air-conditioning in offices/buildings to discourage day-time entry, biting, and resting of Aedes.
- Using WHOPES-recommended long-lasting insecticidal mosquito nets when sleeping or resting during the day (e.g., for pregnant women, infants, elderly, or sick individuals).
- Applying insect repellent to skin or clothing that contains DEET, IR3535 or icaridin according to the product label instructions
- Wearing clothing that minimises skin exposure to mosquitoes is advised.

3. Community engagement

- Educating the community on the risks of mosquito-borne diseases.
- Engaging with the community to improve participation and mobilization for sustained vector control.

4. Reactive vector control

- ***Targeted residual spraying*** -Targeted residual spraying is the primary vector control intervention for immediate response. It is performed using appropriate insecticides applied on *Aegis aegypti* resting sites such as exposed lower sections of walls (<1.5m), under furniture, inside closets, in dark and moist surface where mosquitoes may rest in and to a lesser extent, around houses. Targeted residual spraying is applied selectively to areas known to be resting sites for the Aedes mosquito – it does not require the spraying of all exposed

surfaces in houses. Care must be taken not to treat containers used to store water intended for drinking or cooking.

- ***Space spraying*** **-** In case of vector-borne disease outbreak, emergency vector control measures such as applying WHO Pesticide Evaluation Scheme (WHOPES)-recommended insecticides through space-praying may be resorted in coordination with health authorities. Indoor space spraying is more effective than outdoor treatment if deployed properly inside buildings where Aedes mosquitoes rest and bite. Recommended application techniques include ultra-low volume space spraying (cold fog or thermal fog) and using portable backpack sprayers or thermal floggers, which vaporize liquid insecticide into droplets to form an aerosol or fog with a rapid "knockdown effect" on mosquitoes.

Vulnerable Population

Special attention should be given to prevention of mosquito bites among pregnant women, women of reproductive age, and young children.

Sexual Transmission

Zika virus can be transmitted through sexual intercourse. This is of concern due to an association between Zika virus infection and adverse pregnancy and foetal outcomes. People with Zika virus infection and their sexual partners (particularly pregnant women) should receive information about the risks of sexual transmission of Zika virus. Sexually active men and women should be correctly counselled and offered a full range of contraceptive methods to be able to make an informed choice about whether and when to become pregnant to prevent possible adverse pregnancy and foetal outcomes.

Women who have had unprotected sex and do not wish to become pregnant due to concerns about Zika virus infection should have ready access to emergency contraceptive services and counselling. Pregnant women should practice safer sex (including correct and consistent use of condoms) or abstain from sexual activity for at least the entire duration of pregnancy.

C. STDs

1. Counselling and Behavioural Approaches

Counselling and behavioural interventions offer primary prevention against STIs (including HIV), as well as against unintended pregnancies. These include:

- Comprehensive sexuality education, STI and HIV pre- and post-test counselling
- Safer sex/risk-reduction counselling, condom promotion
- STI interventions targeted to key populations, such as sex workers, men who have sex with men and people who inject drugs; and

2. Barrier Methods

When used correctly and consistently, condoms offer one of the most effective methods of protection against STIs, including HIV. Female condoms are effective and safe but are not used as widely by national programmes as male condoms.

II. IPC FOR CONSTRUCTION WORKERS

A. COVID 19

The contractor(s) undertaking the civil works shall implement the following at a minimum to minimize the spread of COVID-19:

- All construction facilities should establish hand hygiene programmes. Frequent and proper hand hygiene is one of the most important measures that can be used to prevent infection by the COVID-19 virus.
- Wash stations should be provided regularly throughout site, with a supply of clean water, liquid soap, and paper towels (for hand drying), with a closed waste bin (for used paper towels) that is regularly emptied. Wash stations should be provided wherever there is a toilet, canteen/food and drinking water, sleeping accommodations, at waste stations, at the entry/exit of the site, and other communal facilities. Where wash stations cannot be provided, alcohol-based hand rub should be provided.
- Regular cleaning of the construction site and accommodation with neutral detergent and water.
- Worker accommodation that meets or exceeds IFC/EBRD worker accommodation requirements (e.g. in terms of floor type, proximity/no of workers, no 'hot bedding', drinking water, washing, bathroom facilities etc.). Accommodation will be maintained in a clean and hygienic condition to minimize spread of infection.
- Other measures (such as working water sprinkling systems at crushers and stockpiles, covered wagons, water suppression or surfacing of haul roads etc.) should be used for dust suppression on site before relying upon the use of dust masks (which could unnecessarily reduce the availability of N95/FFP2 masks for use by medical staff performing some duties).
- Undertake health awareness and education initiatives with construction workers e.g., providing information on COVID-19 symptoms, transition paths, hand hygiene, and physical distancing etc. Placing posters and signs on hand hygiene and physical distancing around the site, with images and text in local languages.
- Ensure, in collaboration with local health authorities, that medical staff, first aid facilities, sick bay, ambulance services and any other medical services specified are always available at the site and at any accommodation.
- If a worker is diagnosed with COVID-19, follow the National COVID-19 Preparedness and Response Plan.
- The project will ensure that such workers are provided equipment such as masks and gloves in sufficient numbers and quality to ensure they can carry out tasks in a way which minimizes the risks of infection.

B. Dengue, Zika and Chikungunya

- MHMS should have an effective surveillance for outbreak of vector-borne diseases in the construction sites communities.

- In case of outbreak, the project shall engage the community surrounding the construction sites to undertake clearing operations of the surroundings, getting rid of empty containers that collect waters.
- Contractors should undertake regular cleaning of the vicinities of the construction sites, removing water collecting containers.
- If the any of the diseases is active in the area, the contractors should require workers to apply mosquito repellent lotion that contains effective active ingredient such as DEET.
- If any of the disease is active in the area, workers should be provided by the contractor with mosquito nets

C. STDs

- MHMS should conduct awareness campaigns on STDs among construction workers and local communities.
- Worker's camps/Contractor's field offices should be supplied with Condoms as part of the medical/first aid kits supplies.

III. IPC FOR PMU AND KFSU STAFF

A. COVID 19

PMU and KFSU staff may be required to conduct stakeholder consultations or engagement activities or travel for supervision/monitoring of Project activities. Stakeholder consultations and other group meetings have the potential to contribute to virus transmission should COVID-19 enter Kiribati. When planning consultations and supervision/monitoring activities, the PMU / KFSU staff should do the following to minimise the potential to spread the virus:

- Review current health travel advisories and restrictions put in place by the Government of Kiribati to contain virus spread.
- Review the Stakeholder Engagement Plan (SEP), particularly the approach, methods and forms of engagement proposed, and assess the associated potential risks of virus transmission in conducting various engagement activities.
- Avoid large group gatherings. Social gatherings should be limited to 20 people or fewer and conducted, where possible, in large or open spaces.
- If small group meetings are permitted in the location, conduct consultations in small-group sessions, such as focus group meetings. If small group meetings are not permitted in the area, make all reasonable efforts to conduct meetings through online channels if practicable, including WebEx, Zoom and/or Skype.
- Physical distancing shall be adhered to during the meetings with at least 1 metre of separation between participants.
- Avoid shaking hands. Greet people with a wave, nod, or a bow instead.
- All physical attendees must follow standard precautions such as hand hygiene, physical distancing, and wearing masks and gloves as given in Section 2.3.
- KFSU and PMU staff must ensure that all physical attendees articulate and express their understandings on physical distancing behaviour and good hand hygiene practices, and that

any stakeholder engagement or consultation events be preceded with the procedure of articulating such hygienic practices.

- All physical attendees must register their name and contact details for contact tracing purposes.
- PMU and KFSU staff who are feeling sick must not physically attend any planned events or travel.

B. Dengue, Zika and chikungunya

- MHMS shall have a surveillance/alert systems in place for any incidence/outbreak of vector-borne diseases.
- The vicinity of the Project Offices, including field offices shall regularly be cleaned or rid of containers which collect waters.
- In case of outbreak of vector-borne disease, MHMS should engage the communities of the outbreak areas to clean up the surroundings, getting rid of possible mosquito breeding places.
- In areas with active cases of the mosquito-borne diseases, all project staff should be required to apply mosquito-repellent lotion with DEET active ingredient, when going outside to visit construction sites or conduct outdoor activities.
- Spraying shall be undertaken as the last resort during severe infestation.

C. STDs

- All project staff and field workers should be given awareness and information materials about STDs in the country and how to avoid getting infected

All project offices shall be supplied

ANNEX VII - WASTE MANAGEMENT GUIDELINES

[These guidelines will guide the Project team in preparing the ES instruments (i.e., ESMP, ESIA) of KHSSP Subprojects, and the Contractors in preparing their CESMPs. Depending on the amount and types of waste generated by the subproject, the waste management measures could either be embedded in the ESMP or CESMP in the case of the contractor; or contained in a separate and more elaborate Waste Management Plan which will also be attached and/or referred to in the ESMP or CESMP. Special cases of wastes such as asbestos, PCBs, etc., should be addressed by separate protocols based on GIIP and attached to the ESMP or CESMP. Healthcare waste management for the operational phase of facilities associated with the Project (e.g., health centres and KDH) will be addressed through ES screening and TA activities included in Component 2]

1. Waste Management Considerations in the Subproject Design

In finalizing the design of the Subproject, the development team should consider the management of waste that might be generated by the Subproject during its operations and maintenance phase. The development/design team should refer to Section 3 (Operations Phase) of this Guidelines to incorporate any waste management design features into the Subproject design. Any design feature that will be adopted that deals with waste management should be described concisely in the ESMP or ESIA. In case the Subproject has only a simple ESMP Matrix, a brief one-paragraph description of the design feature should suffice. Example of Subproject design features, modifications enhancements to accommodate wastes:

a) Flood-proof/resilient Water and Sanitation System
b) Waste sterilizer/autoclave facility/room
c) Medical sharp-waste shredder
d) In-house incinerator
e) Waste chutes/corridors
f) Waste collector/transporter docking facility

Note that the Subproject waste management system shall be integrated into the National HCWM system which will be developed under KHSSP. Hence, in designing the waste management system of the Subprojects' the team should consult any concept or draft plan of the National HCWM.

2. Management of Waste from Construction Activities

The management (i.e., minimization, reuse, recycling, collection, treatment, transport, and disposal) of waste generated from construction activities (including demolition) shall be, by contractual obligation, the responsibility of the contractor, under supervision and oversight of the PMU and KFSU and MELAD. The contractors ESMP (CESMP) shall include waste management measures. It will also be the responsibility of the contractor to secure any permits or license needed for the waste handling and disposal. The ESMP of Subprojects will highlight some key wastes and aspects of the waste management measures to be applied during construction, but it is the contractor's responsibility to address them in its CESMP.

2.1 Waste Generated from Demolition Works

Some Subprojects may require the demolition of existing structures or facilities which, depending on the previous use and make of the structure, may generate several types of wastes. Demolition

waste may comprise of concrete blocks, soil, and vegetation from site clearance, roofing materials, metal, plasterboard, bricks, windows, and timber wastes. It may also include hazardous materials such as asbestos, lead paints, synthetic mineral fibre (SMF), ozone depleting substances (from old air conditioning units) and polychlorinated biphenyls (PCBs).

Minimization Measures for Demolition Wastes

- Any existing structures that can be reused should be left intact subject to the design integrity of the new facility/structure to be built.
- Minimize the footprint of the works to that of the essentials for the works.
- Avoid tree and vegetation removal as much as is practicable.
- Mark out waste storage areas before dismantling begins to make the process smoother and help reduce damage to salvaged materials.
- Dismantle buildings into components in the reverse order to construction. Initially remove materials by hand e.g., wooden floorboards, to avoid damage and excess waste.
- Separate materials (metal, timber etc.) and store them in neat piles to avoid cross contamination.
- Ensure safe and dry storage of salvaged items.
- Place clear signage on all waste separation and collection areas.
- Minimize hazardous waste generation by ensuring that hazardous waste is not co-mingled with non-hazardous waste.
- Any hazardous materials shall be removed, handled, and segregated from other wastes in accordance with GIIP.

Reuse and Recycling of Demolished Materials

- Crush and reuse uncontaminated concrete onsite for new foundations, roading, embankment fills, parking areas.
- Reuse inert demolition waste such as concrete and bricks, offsite as clean fill material for roads and/or other construction sites.
- Mulch and/or chip tree and vegetation waste for reuse onsite as garden product.
- Cleared foliage, shrubs, and/or grasses can be given to local farmers for animal fodder and/or fuel, or they can be collected for composting and sent to the centralized composting facility at the municipal/island landfill, if there is any.
- Soil removed during site preparation can be reused back on-site for landscaping.
- Remove scrap metal, such as roofing materials and iron rebar from concrete, for reuse off-site or metal recycling where practicable.
- Plasterboard can be crushed and used as a soil conditioner in gardens.
- Collect undamaged windows for reuse or resale.
- Timber can be resold for utilisation as fuel (if non-treated) or for repairing houses in villages or outer island communities (if treated).

Disposal of Demolition Waste

Once all reduction, reuse and recycling options have been exhausted, disposal of any remaining demolition waste shall be carried out in accordance with Kiribati requirements and to an approved and licensed landfill.

- Waste transported off site for disposal must be undertaken by a licensed waste contractor.

- Collection, transport, and disposal of hazardous waste to licensed/permitted hazardous waste sites only following GIIP for the waste being handled.
- All asbestos waste and products containing asbestos are to be buried at an approved and licensed landfill and must not be tampered with or broken down to ensure that no fibres become airborne. Asbestos containing material will be disposed of in accordance with the WBG/IFC EHS Good Practice Note on Asbestos: Occupational and Community Health issues, WBG General EHS Guidelines April 2007 P34 & P37 and local legislation. Consultation with MELAD will determine whether asbestos assessments are required prior to the commencement of works.
- All other hazardous waste materials shall be disposed of in accordance with GIIP, including possibly (when risk is high) the hiring of professional and licensed handler.

2.2 Waste Generated from Construction Works

Construction wastes may comprise of offcuts of steel, timber (treated and untreated), plasterboard, plywood flooring, and insulation. It may also include excavation waste from site preparation, concrete waste from over pours and packaging wastes e.g., plastic and cardboard. Some hazardous wastes such as small amounts of fuel, oil and paints may also be generated. General wastes generated by the construction workers are also included.

Minimization Measures for Construction Wastes

- Preference should be given to materials that can be used to construct Project activities that reduce the direct and indirect waste generated.
- Avoid tree and vegetation removal as much as is practicable.
- The use of construction materials shall be optimized as much as is practicable e.g., by careful measurement and cutting which avoids excess offcuts.
- Specific areas on site shall be designated for the temporary management of the various waste streams prior to construction works beginning.
- Separate waste materials and store them in neat piles to avoid cross contamination.
- Place clear signage on all waste separation and collection areas to encourage workers to correctly separate waste.
- Minimize hazardous waste generation by ensuring that hazardous waste is not co-mingled with non-hazardous waste.

Reuse and Recycling Options of Construction Waste Materials

- Hardfill materials such as bricks, tiles, glass, and concrete over pours can be crushed as used as clean fill for roads and/or other construction sites.
- Steel off-cuts can be recovered and sold as scrap metal.
- Put treated timber and flooring off-cuts aside to encourage reuse. Reuse timber off-cuts on-site e.g., for roof over hangs. Untreated timber can be saved and sold as a fuel.
- Plasterboard offcuts can be saved and crushed and used for soil conditioner in gardens.
- Insulation off-cuts can be saved and sold for use by households.

- Recyclable materials such as packaging material (cardboard, paper, plastic, glass bottles etc.), should be segregated on-site from other waste sources and sent for recycling e.g., aluminium cans and PET bottles can be sent to the Betio MRF.

Disposal of Construction Wastes

- Once all reduction, reuse and recycling options have been exhausted, disposal of any remaining construction waste shall be carried out in accordance with government requirements and to an approved and licensed landfill.
- Collection, transport, and disposal of hazardous waste shall be undertaken by licensed/permitted hazardous waste disposal sites following GIIP for the waste being handled.

2.3 Domestic Wastes Generated from Workers Camp/Temporary Facilities

Grey wastewater and sewer generated from workers' camp and temporary facilities, shall be contained in a water-tight two-chamber septic tank system and the septage channelled into a soak pit/bed or discharged into the municipal sewer system, if available. Raw sewage and septage should not be discharged directly to the sea.

3. Waste Management during Operations and Maintenance of Phase

3.1 Ordinary, Non-Hazard Waste

For ordinary grey (domestic and sewer) wastewater:

a) If municipality sewerage system is available, the facility may be connected to municipal sewerage system. If municipal system is not reliable and the volume of waste is small, install a septic system/wastewater treatment system for the facility. If the municipal system is unreliable, the facility may opt to construct a redundant system consisting of a septic tank or small wastewater treatment system, which could be designed to be flood resilient.
b) In remote islands where municipal sewage service is not available, a flood-resilient septic tank system should be designed.

For ordinary solid waste (i.e., paper, cardboard, food waste, etc.), the facility should collect and dispose of the waste in accordance with the regulations, e.g., segregation of organic or degradable waste and disposal of residuals into the municipal landfill.

3.2 Health Care Waste

For the management of health care waste, the Subproject preparation team should refer to the WHO Guidance Manual on Health Care Waste. Please visit the link below:

(https://www.who.int/water_sanitation_health/medicalwaste/en/guidancemanual1.pdf)

3.3 E-Waste

The procurement of new ICT hardware for the health facilities may necessitate some e-waste disposal should old hardware be replaced e.g., laptop computers. E-waste is categorized as a hazardous waste, as it contains hazardous substances like lead, cadmium, and mercury. Incorrect disposal of e-waste can cause serious damage to the environment (air, water, soil) and to public health. The following are the minimization and disposal measures for E-wastes:

Minimization Measures for E-Wastes

- Consider upgrading/repairing existing hardware as opposed to replacing the entire unit
- Reuse opportunities, such as donation to schools or community groups, should be considered next. Recycling options for e-waste in Kiribati are currently limited
- Consider purchasing equipment that can be upgraded and/or repaired
- Consider the length of product life, warranty and availability of repair services when purchasing equipment
- Consider opportunities for others to reuse the unwanted equipment e.g., schools or community groups
- Return equipment to suppliers for reuse or recycling if this is practicable
- Investigate recycling opportunities available

Disposal of E-wastes

- E-waste from outer islands should be collected and transported to South Tarawa for collection and safe disposal. A review of e-waste related activities in the Pacific Islands (completed by the Secretariat of the Pacific Regional Environment Programme (SPREP) in 2018) found that Kiribati has had a functional collection point for e-waste at the Materials Recovery Facility (MRF) in Betio, Tarawa set up by MFAT during phase 1 of the Kiribati Solid Waste Management (SWM) programme.
- Disposal residual (non-recyclable/recoverable) e-waste should be disposed of only into a licensed designated hazardous waste site, following GIIP
- E-waste transported out of country for recycling or disposal at a licensed and engineered landfill, only with appropriate permits and approvals under international treaties such as Basel and Waigani Conventions.

Collection, removal, and disposal to an approved and licensed landfill should only be considered as a final option, once all other reduction, reuse and recycling options are exhausted. E-waste from outer islands should be collected and transported to South Tarawa for collection and safe disposal. The disposal of all Government purchased assets is required to be verified prior to being disposed, as is specified by the Stores Regulation.

MHMS should develop a simple waste tracking system for e-waste to measure the amount and type of e-waste produced and disposed of to ensure that the amounts and types are correctly tracked and recorded. The e-waste tracking system should be developed during the planning/procurement period, so that the MHMS have defined options for e-waste disposal prior to installing the new hardware.

4. Monitoring, Reporting and Auditing

As the waste management plans are integrated into the ESMP or CESMP (in the case of contractors), the monitoring and reporting on the waste management should be part of the Monitoring and Reporting of the ESMP and CESMP implementation. Waste management shall also be included in the random audits to be conducted by MELAD, KFSU ES specialists, or PMU ES Risk and Impact Management Team during the construction period or during the start of operation of the facility.

ANNEX VIII - CODE OF ENVIRONMENTAL AND SOCIAL PRACTICE FOR CONTRACTORS

The contractors of any activity or subproject of KHSSP shall be guided by the following Environmental and Social Code of Practice (ESCOP).

1. Designation of Site EHS Officer

The Contractor shall designate an Environment, Health and Safety Officer (EHSO) among its management team on site. For small contracting works, contractors may designate their Site Engineer as the EHSO.

2. Formulation of Contractor's ESMP (CESMP)

The Contractor shall prepare its own Contractors Environmental and Social Management Plan (CESMP) based on the ESIA/ESMP or ESMP matrix prepared for the Subproject and this ESCOP. The CESMP will be submitted to the PMU E&S Coordinator who together with the KFSU ES Safeguard Specialists will review and approve the document. The table below will guide the contractor in the formulation of CESMP.

Risks and Impacts	**Mitigation Measures**	**Focus of Verification /Monitoring**
Impacts from the transport of equipment into the site	The contractor shall be responsible for transporting their equipment to the island and to construction site. • Any temporary beach landing site should be cleared with the local authorities and must not contribute to beach erosion or damage a coral reef • The contractor shall ensure that the heavy equipment route from port to the construction site is properly planned and capacities of the roads, bridges or causeways are carefully assessed	SEP implementation Process Documentation -Summary
Impacts of the establishment of construction camp site and equipment yard	It will be the contractor's responsibility to establish a worker's camp or field office. And if the Subproject cannot provide enough space at the construction site and the contract so specifies, it will be the contractor's responsibility to negotiate for a land within the vicinity of the site. Note that if rights on the land are secured with the help of the government, then the acquisition of (or the rights to establish camp on the) said lot shall be subject to the RPF. The following criteria should be adopted: • Worker's camp shall preferably on a built-up area • It must not be part of a wildlife reserve or any protected area • It must not contribute to beach erosion or any alteration of a beach area • It must be equipped with water and sanitation and must treat wastewater through adequate sewerage (i.e., septic) system; it must not directly discharge wastewater into the sea or lagoon. • The camp should be covered by appropriate permit.	SEP implementation Process Documentation -Summary
Impacts of the disposal of construction spoils	Spoils, unusable soil materials, and non-hazardous debris such as demolished concrete blocks from construction site, shall be disposed of properly. The contractor may negotiate with landowners to use spoils for embankments on low lying private lands or use existing landfills. The contractor shall identify a suitable spoil disposal area using the following criteria.	Agreement with landowners Disposal site inspection

Risks and Impacts	Mitigation Measures	Focus of Verification /Monitoring
	• It must not be in the wildlife reserve area • It must not block drainage or natural waterways	
Impacts extraction of embankment materials and aggregates on biodiversity, beach erosion, sedimentation, land deformation, and involuntary rights acquisition	In civil works contract, the contractor is usually responsible for the sourcing of embankment materials and/or aggregates. The following should be observed: • The borrow pit and/or quarry must be approved or covered by appropriate government permit • Must not be in wildlife reserve or in areas of natural habitat or known habitat of endangered species and if it is a private land, the contractor must secure extraction rights from the owner through negotiation. If rights to use the land as borrow pit are secured with the help of the GoK, the acquisition of rights shall be subject to the RPF. • If the material is dredged from the sea, the site should not be in the ocean side of the atoll where it can exacerbate beach erosion or destroy coral reefs • A quarry management plan should be prepared for each quarry or borrow pit site, which delineates the area and outlines the activities viz. the removal and storage of topsoil and overburden, the maximum amount to be extracted, the plans for site reclamation/restoration, mitigation of environmental impacts such as the soil erosion, sedimentation of water bodies, disturbance of wildlife, etc.	Borrow Pit/Quarry Site
Air quality, noise, and vibration generated from civil works	The contractor(s) is responsible for compliance with all relevant national legislation and international standards with respect to noise and vibration and ambient air quality during construction. <u>Noise and vibration:</u> The contractor(s) undertaking works shall implement the following at a minimum: • Plan activities in consultation with communities so that noisiest activities are restricted to being undertaken during periods that will result in least disturbance. • Noise levels should be maintained within the national permissible limits/standards. • If necessary, use temporary noise-control methods such as fences, barriers, or deflectors (such as muffling devices for combustion engines) and select equipment with lower sound power levels where possible. • Minimize transport of demolition and construction materials through community areas during regular working time. • Maintain a buffer zone (such as open spaces, row of trees or vegetated areas) between the project site and surrounding areas, if possible, to lessen the impact of noise; and • Noise impacts should not exceed 55 dB(A) for residential; institutional, or educational receptors during the daytime (07:00 – 22:00) and 45 dB(A) during the Night-time (22:00 – 07:00) and for industrial or commercial receptors should not exceed 70 dB(A) at anytime or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site. <u>Air Quality:</u>	Designated stockpile areas approved; dust plumes; complaints register; vehicle and plant maintenance records.

<table>
<tr><th>Risks and Impacts</th><th>Mitigation Measures</th><th>Focus of Verification /Monitoring</th></tr>
<tr><td></td><td>The contractor(s) undertaking works shall implement dust suppression measures (e.g., covering of material stockpiles, etc.) as required. At a minimum the following is required:
Materials used shall be covered and secured properly during transportation to prevent scattering of soil, sand, materials, or generating dust.
Keep stockpiles of aggregate materials covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals.
Minimize dust from exposed work sites and stockpiles by applying water on the ground regularly.
No burning of site clearance debris (trees, undergrowth) or construction waste materials
Hydrocarbons shall not be used as a method of dust control.
Immediately re-vegetate and/or stabilize exposed areas; and
Ambient air quality should not exceed relevant national air quality guidelines/standards or the current WHO Ambient Air Quality Guidelines:
<table><tr><th colspan="3">WHO Ambient Air Quality Guidelines</th></tr><tr><th></th><th>Averaging Period</th><th>Guideline value in ug/m^3</th></tr><tr><td>Particulate Matter PM$_{10}$</td><td>1-year
24-hour</td><td>20
50</td></tr><tr><td>Particulate Matter PM$_{2.5}$</td><td>1-year
24-hour</td><td>10
25</td></tr></table></td><td></td></tr>
<tr><td>Soil erosion and uncontrolled sediment causing negative impacts to surface or groundwater.</td><td>The contractor(s) undertaking works shall implement the following at a minimum:
Implement suitable construction method and establish appropriate erosion and sediment control measures to minimize soil erosion and identify and protect receiving water courses and bodies
Scheduling earthmoving activities, avoiding heavy rainfall periods; and
Use mulch, grasses, or compacted soil to stabilize exposed areas promptly.</td><td>On-site sediment control measures; records of water quality monitoring (visual); revegetation.</td></tr>
<tr><td>Resource efficiency issues, including materials supply and extraction of raw materials.</td><td>The contractor(s) undertaking works shall at a minimum:
Estimate the quantities of raw materials needed for the construction and/or refurbishments.
Source raw materials and construction materials locally and from licenced/permitted facilities only; and,
Use recycled or renewable building materials (e.g., timber) for temporary facilities and scaffoldings provided they are safe.</td><td>Contract for local materials.</td></tr>
<tr><td>Impacts on local communities from traffic obstruction, congestion, and</td><td>The contractor(s) undertaking works shall implement the following at a minimum:</td><td>Traffic management plan included in the Contractor(s) H&S Management Plan;</td></tr>
</table>

Risks and Impacts	Mitigation Measures	Focus of Verification /Monitoring
traffic and road safety.	• Construction and establishment of haul roads shall be kept to a minimum. • Communicate traffic management plans – including traffic volumes, schedules, road closures and community safety measures – to project stakeholders and local communities. • Minimise the extent of traffic and construction impacts on adjacent villages and other residential areas where possible; and • All traffic signs used for the warning or direction of traffic at road works sites shall comply with appropriate traffic regulations. Homemade signs shall not be used. • Implement dust suppression measures	traffic control measures implemented; signage and barriers installed as required; complaints register.
Accidental damage archaeological artefacts during excavation	The contractor(s) shall have a Chance-Finds Procedure in place prior to any physical works beginning.	Chance-Finds Procedure posted in construction field office
Risk of UXO	Site should be certified cleared of UXO. If OXU or indication of OXU is discovered, the contractor shall immediately take safety precautions and contact the authorities. The contractor should adopt a simple procedure to be posted at construction site offices. 1. If a suspect UXO item is found - Stop all construction activities in the area. Inform the MHMS. DO NOT TOUCH, disturb, or tamper with the item in any way. This includes making any attempt to move the item to a 'safe' location. 2. Carefully note the appearance of the item and the location. Take a photograph if it is possible to do so without further approaching or disturbing the item. 3. If possible, mark the location with bright colored material so that it can be found later. Secure the premises. 4. Inform the Police.	UXO Procedure posted in construction field office
Land and/or water pollution from waste generated by demolition debris, construction materials, and/or workers (solid, hazardous, and wastewater)	The contractor(s) undertaking works shall implement the following at a minimum: • Develop and follow a site-specific a waste management plan as part (a section) of the CESMP (i.e., separation of waste streams, storage, provision of bins, site clean-up, bin clean-out schedule, etc.). • Use litter bins, containers, and waste collection facilities at all places during works • Store solid waste temporarily on site in a designated place prior to off-site transportation and disposal through a licenced waste collector • On-site and off-site transportation of waste should be conducted to prevent or minimize spills, releases, and exposures to employees and the public • Dispose of waste only at designated place identified and approved by local authority. Open burning or burial of solid waste on the construction site shall not be allowed. It is prohibited for the contractor(s) to dispose of any debris or construction material/paint in environmentally sensitive areas (including watercourses)	Contractor's CWMP; sanitation facilities maintained onsite; waste and recycling records; worker training records.

Risks and Impacts	Mitigation Measures	Focus of Verification /Monitoring
	• Recyclable materials such as packaging material etc., shall be segregated and collected on-site from other waste sources for reuse or recycle (sale) • Provide adequate portable sanitation facilities serving all workers at all construction sites • Ensure onsite worker sanitation facilities be properly operated and maintained to collect and dispose of wastewater • Minimize hazardous waste generation by ensuring hazardous waste is not co-mingled with non-hazardous waste. Collect, transport and disposal of hazardous waste to licenced/permitted hazardous waste sites only following good international industry practice (GIIP) for the waste being handled • Design training for staff in the segregation of wastes.	
Land and/or water pollution from use and storage of hazardous substances e.g., minor spills from fuel, oils, lubricants.	The contractor(s) undertaking works shall implement the following at a minimum in accordance with relevant Kiribati laws and GIIP such as the IFC EHS Guideline: Hazardous Materials Management • Using impervious surfaces for refuelling areas and other fluid transfer areas • Ensure that refuelling and maintenance facilities are not located, or that activities do not take place, within 30 m of a watercourse, or in ecologically sensitive areas. If a 30m limit is impracticable then a lesser limit may be adopted provided approval is obtained. On no account shall the limit be less than 10 m • Providing adequate secondary containment for fuel storage tanks and for the temporary storage of other fluids such as lubricating oils and hydraulic fluids. If the secondary containment used is bunding, then the area should also be lined and covered • Ensure that vehicles and plant are not stored within 30 m of a watercourse, or in ecologically sensitive areas, overnight or when not in use • Regular checks for leaking oil or fuel from machinery undertaken. Any leaks are promptly repaired and/or parts replaced within two days as part of maintenance of vehicles and equipment • Training workers on the correct transfer and handling of fuels and chemicals and the response to spills; and • Spill kit, appropriate to the hazardous materials being used, to be kept on-site and workers to be trained in its deployment.	Secured storage areas and secondary containment; spill kit and worker training records; records of safety briefings; vehicle and plant maintenance records.
Land and/or water pollution from hazardous wastes such as asbestos, lead paints, SMF, ozone depleting substances (from old air conditioning units) and PCBs that may be present in	The contractor(s) undertaking works shall be required to do the following at a minimum: • Hazardous material management procedure detailed in the waste management plan (part of the CESMP) to be developed during project by the contractor in accordance with GIIP and Kiribati regulations • Asbestos containing materials managed in accordance with GIIP such as WBG guidelines on asbestos management. GIIP for asbestos includes: i) Requirements for contractors and stipulations of clauses in the tendering documents; ii)	Hazardous material management procedure as part of Contractor's CWMP; record of building inspection; hazardous waste records; worker training records.

Risks and Impacts	Mitigation Measures	Focus of Verification /Monitoring
warehouse demolition or refurbishment debris.	Risk assessment – determining the content of asbestos and risks of exposure incurred by workers, to assess them and to take the necessary precautions; iii) Notification to the occupational health and safety authority responsible for the work site; iv) Work plan with working instructions - lay down the technical and personal protective measures to be taken in the work plan; v) Training of project stakeholders and training of contractor and workers; vi) Transport, Storage and Disposal of Asbestos (agreements with component bodies for transportation and disposal); • Safe removal of any asbestos-containing materials or other toxic substances shall be performed and disposed of by specially trained workers in line with the WBG guidelines on asbestos management • Removal personnel will have proper training prior to removal or repair of asbestos containing materials • All asbestos waste and products containing asbestos is to be buried at an appropriate landfill and not to be tampered or broken down to ensure no fibres are airborne. Disposal of waste containing asbestos should be agreed with MHMS; and • No asbestos containing materials used for construction or refurbishment works.	
Occupational Health and Safety (OHS) risks for workers from demolition and/or construction activities.	The contractor(s) undertaking works shall comply with all national and good practice regulations and GIIP regarding workers' safety, such as OHS section of the IFC EHS Guidelines on Construction and Decommissioning, and implement the following at a minimum: • Develop and follow a site-specific health and safety (H&S) management plan that is compliant with the ESMF and World Bank Environment and Health and Safety Guidelines (EHSGs). Construction H&S management plan(s) shall be included as a section of the CESMP. • Appoint an EHS officer at site, who will have the authority to issue directives for the purpose of maintaining the health and safety of all personnel authorized to enter and or work on the site. • Prepare and implement a simple action plan to cope with risk and emergency (e.g., fire, storm surge, cyclone, COVID-19 outbreak) • Have or receive minimum required training on occupational safety regulations and use of PPE • Undertake training of staff to meet standards for the proper operation and use of equipment • Training of workers in lifting and materials handling techniques in construction and refurbishing projects, including the placement of weight limits above which mechanical assists or two-person lifts are necessary • Training and use of temporary fall prevention devices, such as rails or other barriers able to support a weight of 200 pounds, when working at heights equal or greater than two meters (e.g., on scaffolding) • Use of control zones and safety monitoring systems to warn workers of their proximity to fall hazard zones, as well as	Contractors Health and Safety plan(s); Emergency Action Plan; workers allocated and wearing PPE; first aid kits in vehicles and at work sites; worker training records; complaints record; accident/ incidents register.

Risks and Impacts	Mitigation Measures	Focus of Verification /Monitoring
	securing, marking, and labelling covers for openings in floors, roofs, or walking surfaces • Take protective measures to prevent accidents such as: o implementing good house-keeping practices, such as the sorting and placing loose construction materials or demolition debris in established areas away from foot paths. o Locating electrical cords and ropes in common areas and marked corridors. o Planning and segregating the location of vehicle traffic, machine operation, and walking areas, and controlling vehicle traffic using one-way traffic routes, establishment of speed limits, and on-site trained flag-people wearing high-visibility vests or outer clothing covering to direct traffic. o Ensuring moving equipment is outfitted with audible back-up alarms. o Use of temporary fall protection measures in scaffolds and out edges of elevated work surfaces, such as handrails and toe boards to prevent materials from being dislodged. • Provide PPE and other safety measures as appropriate during works such as safety glasses with side shields, face shields, hard hats, hi-vis vests, and safety shoes with non-slip soles, first aid kits, restricted access zones, warning signs, overhead protection against falling debris • Refer any grievances received by the community or local businesses to the Social Specialist who will coordinate the GM; and • Provide project workers with accessible means to raise workplace concerns.	
Issues related to inappropriate worker accommodations such as close working and poor living conditions which may create conditions for the easy transmission of COVID-19 and the infection of large numbers of people should COVID-19 enter Kiribati.	The contractor(s) undertaking works shall comply with all national and good practice regulations regarding workers' safety, the IPCP and the LMP for the Project and implement the following at a minimum: • Appoint a senior person, e.g., the health and safety officer, as the focal point to deal with COVID-19 issues • Prepare a detailed profile of the project work force, key work activities, schedule for carrying out such activities, different durations of contract and rotations. This should include a breakdown of workers who reside at home (i.e., workers from the community), workers who lodge within the local community and workers in on-site accommodation. • All construction facilities should establish hand hygiene programmes. Frequent and proper hand washing is one of the most important measures that can be used to prevent infection by the COVID-19 virus. • Wash stations should be provided regularly throughout site, with a supply of clean water, liquid soap and paper towels (for hand drying), with a closed waste bin (for used paper towels) that is regularly emptied. Wash stations should be provided wherever there is a toilet, canteen/food and drinking water, sleeping accommodations, at waste stations, at the entry/exit of the site, and other communal facilities.	Hand hygiene stations; cleaning records; COVID-19 plan; worker training records; complaints records; accidents/incidents register.

Risks and Impacts	Mitigation Measures	Focus of Verification /Monitoring
	Where wash stations cannot be provided, alcohol-based hand rub should be provided. • Undertake regular cleaning of the construction site and accommodation with neutral detergent and water. • Worker accommodation that meets or exceeds IFC/EBRD worker accommodation requirements (e.g. in terms of floor type, proximity/no of workers, no 'hot bedding', drinking water, washing, bathroom facilities etc.). • Accommodation maintained in clean and hygienic condition to minimize spread of infection • If a worker is diagnosed with COVID-19, follow the National COVID-19 Preparedness and Response Plan; and • Undertaking health awareness and education initiatives with construction workers e.g., providing information on COVID-19 symptoms, transition paths, good hand hygiene, physical distancing etc.	
Workers do not receive the care needed if infected with COVID-19.	Contractors should ensure that contracted workers have medical insurance, covering treatment of COVID-19.	Medical Insurance Records.
Health and safety risks for community from demolition and/or construction activities.	The contractor(s) undertaking works shall implement the following at a minimum: • Develop and follow a site-specific community health and safety management plan as part of the CESMP that is compliant with the ESMF and World Bank Environment and Health and Safety Guidelines (EHSGs) and which includes health and safety measures for the community. • A Traffic Management Plan must be included in the H&S Management Plan • Comply with all national and good practice regulations regarding workers' safety and the Project's LMP • Take protective measures to prevent accidents such as: o Barriers to prevent unauthorised access to worksites. o Implementing good house-keeping practices to eliminate the hazard where possible, such as the sorting and placing loose construction materials or demolition debris in established areas away from foot paths. o Planning and segregating the location of vehicle traffic, machine operation, and walking areas, and controlling vehicle traffic using one-way traffic routes, establishment of speed limits, and on-site trained flag-people wearing high-visibility vests or outer clothing covering to direct traffic. o Ensuring moving equipment is outfitted with audible back-up alarms. • Provide safe access routes and other safety measures as appropriate during works such first aid kits, restricted access zones, warning signs, covering openings to small, confined spaces, overhead protection against falling debris and barricaded exclusion areas for drop zones (e.g., when working at heights), lighting system to protect community against construction risks; and	Contractor's Health and Safety plan which includes a Traffic Management Plan; signage and traffic control measures; site barriers such as fencing; records of consultations; complaints records; accident/ incidents register.

Risks and Impacts	Mitigation Measures	Focus of Verification /Monitoring
	• Communicate risks and community safety mitigation measures to project stakeholders and communities. • Grievance mechanism (GM) developed and operational in accordance with the Project SEP.	
Increase in sexual exploitation and abuse/ harassment (SEA/H) related to project workforce	The Contractor(s) should at a minimum: • Comply with all relevant national laws and legislations. • Include SEA/H requirements in the site-specific construction Health and Safety management plan including aspects relating to preventing GBV and SEA/H and zero tolerance for these behaviours. • Ensure that workers are well briefed on the GBV and SEA/H requirements in the Health and Safety Plan. • Provide separate facilities for female and male workers. • Refer to the Project LMP for further mitigation measures.	Contractor's Health and Safety plan which includes SEA/H requirements; Agreed Code of Ethics and Professional Conduct; worker training records; complaints record.
Risk of exploitation of minors in construction works	• Forced or bonded labour are absolutely prohibited in the project • Minors, if involved, should not be less than 14 years of age and work assignments should not interfere with child schooling. • Minors should not be assigned to work in heavy and hazardous tasks or in the actual construction area	Records of workers by age; complaints record.
Damage and increased wear and tear of public facilities used by contractors such as roads, bridges, and ports.	The contractor shall conduct regular maintenance and repair works on roads and public facilities that it frequently used during construction. Any damage of these facilities caused by construction activities such as hauling of materials, etc., shall be repaired or restored to original conditions by the contractor.	Roads to the project site, to and from the port, to and from quarry site/borrow pits. Ports.
Impacts of improper demobilization after completion	• Before withdrawing from the site, the contractor must remove all wastes, debris and unused materials from the site and workers camp, and disposed of them properly • Contractors must restore camp, borrow/quarry site in accordance with approved plan/permit requirements or as agreed with landowners in case of private lands.	Worker's camp/Equipment yard, Borrow pit/Quarry, Construction site

3. Format of the CESMP

The CESMP shall at the very least contain a matrix of activities, environmental or social impacts and mitigation measures, in the following format:

Activity	Environmental or Social Impacts	Mitigation Measure

4. Reporting

During the construction phase, monthly reports shall be prepared by the contractor(s) and submitted to the Subproject ES Focal Person who will conduct a quick review and forward the report to the PMU Safeguards Coordinator with his notes and comments. The PMU ES Coordinator will review the report and contact the Focal Person for clarifications. Significant and urgent issues will be referred to the KFSU Safeguards Specialist for advice. The reports will include information on (i) the implementation of approved CESMP; and (ii) any health and safety or environmental incidents.

Incident Reporting
Minor incidents (i.e., safety violations, near misses, minor injuries, minor spills, discharges etc.) should be included in the monthly report. Major incident (e.g., major spills of fuel into the beach, major accidents involving loss of life, incapacitation, etc.) should immediately be reported to the Focal Person and /or the PMU Safeguard Coordinator. The EHSO shall prepare a detailed written report of the incident, copies of which shall be given to the ES Focal Person. Major incidents must be reported to the World bank within 24 hours in accordance with the project Environmental and Social Commitment Plan.

5. Site Inspection

The EHSO shall conduct regular inspection/audit of the construction site and compile the findings of these audit. The contractor shall also allow MELAD, PMU and KFSU personnel to enter the construction site facilities and premises and conduct Environmental, Health and Safety Audits and validation of contractor's monthly reports. ESH audits conducted by PMU and KFSU will be based on the contractor's approved CESMP.

ANNEX IX - CHANCE FIND PROCEDURES

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

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

Chance find procedures will be used as follows:

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

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

Relevant findings will be recorded in World Bank Supervision Reports and Implementation Completion Reports will assess the overall effectiveness of the project's cultural heritage mitigation, management, and activities.

ANNEX X - UXO PROCEDURES

1. The ESIA/ESMP of the Subproject will determine the requirement for a UXO survey prior to the commencement of works, depending on whether the selected land has previously been surveyed/disturbed.

2. The contractor should familiarize their workers on types and appearances of UXO.

3. In case of any discovery of suspected UXO during the construction, the highest-ranking personnel on site will stop all works and will not touch the suspected UXO object.

4. The highest-ranking personnel will immediately cordon off and secure the area, and arrange an evacuation of workers and residents away from the suspected UXO.

5. The highest-ranking personnel will then immediately inform the site Engineer and/or the highest-ranking PMU personnel at site or field office.

6. The highest-ranking personnel and/or the PMU personnel and/or the Site Engineer shall inform the local police regarding the find.

7. The contractor shall wait for instructions from the police before resuming work on the site.

ANNEX XI - SCHEDULE OF ENVIRONMENTALLY SIGNIFICANT ACTIVITIES (FROM KIRIBATI ENVIRONMENT GENERAL REGULATIONS 2017)

ENVIRONMENT (AMENDMENT) ACT 2007
(section 86)

ENVIRONMENT (GENERAL) REGULATIONS 2017

In exercise of the powers conferred by section 86 of the Environment (Amendment) Act 2007, the Minister, acting in accordance with the advice of the Cabinet, hereby make the following Regulations:

Part I – Preliminary

1. Citation

These Regulations may be cited as the Environment (General) Regulations 2017.

2. Commencement

These Regulations shall be commenced on the date of publication, by exhibition at the Office of Te Beretitenti.

Part II – Fees

3. Environmentally Significant Activities Licence Fees

For the purposes of section 31(b) of the Act, the prescribed fee for Environmentally Significant Activities is described in the following table —

Items	Activity	Fees
1	Scientific or Environmental Research - by an individual for academic purposes only	$30
2	Scientific or Environmental Research – for any other purposes	$300
3	Activities intended to generate income or make profit	$20
4	Government activities (including research) not intended to generate income or make profit	$30
5	Activities intended for private purposes	$10

Part III - Requirements of Environmental Impact Assessment Reports

4. Requirements of environmental impact assessment report.

For the purpose of section 33(1)(d) of the Act, an environmental impact assessment report must include the following details: -

Item	Details
	An executive summary of the impact assessment report, written in Kiribati
1	The objective of the proposed activity
2	An analysis of the need for the proposed activity
3	A description of the proposed activity, including: a) If the activity includes construction work – i) Designs, plan and maps; ii) The quantities of any materials and equipment needed; iii) The nature of any construction or works process; iv) Construction working hours; and v) Proposed schedule for implementation and completion. b) If the activity includes carrying on an environmentally-significant activity- i) The nature and extend of the activity; ii) Materials needed; and iii) Sourcing of materials, whether imported or locally sourced. c) If the activity includes taking, harvesting, growing or keeping of organisms, the type and number of organisms involved; d) If the activity includes the generation of any waste substances or energy – i) The nature and quantity of any waste products; ii) Proposed methods for controlling and dealing with any waste products. e) If the activity includes harm to coral reef, mangrove or sea grass bed, the nature and extend of harm f) If the activity includes harm to a protected species or ecological community, the nature and extend of the harm g) If the activity is in a protected area or World Heritage Area, the nature and extent of any harm to the protected area or World Heritage Area.
4	A description of the environment with the potential to be affected by the proposed activity
5	The potential or actual impacts of the proposed activity on the environment
6	A description of any intended investigations or studies of the possible impact of the proposed activity on the environment
7	A description of how climate change and climate variability may impact on the activity
8	The benefits of the proposed activity, including any economic, social and cultural factors
9	Reasonable alternatives to the proposed activity, for example, design and sites, including, at least, the alternative of not undertaking the activity
10	An outline of the reasons for the proposed activity as opposed to the

	alternatives
11	A description of any other legal requirements relating to the proposed activity
12	A summary of the results of consultations undertaken for the proposed activity
13	List of the persons and bodies who have been consulted
14	An environmental management and protection plan for the proposed activity, including – i) a description of environmental issues or the environment to be affected or impacted; ii) a description and assessment of the controls, safeguards, standards or other environmental management or mitigation measures intended to be adopted or applied for the protection of the environment, or to minimise or prevent harm to the environment, including their estimated costs; iii) A description of responsibilities and authorities for implementation of mitigation measures and monitoring requirements. iv) A clear statement that the applicant is committed to the measures included in the environmental management and protection plan; and v) A clear statement by the applicant that, if unexpected adverse impacts occur, contact will be made immediately with the Principal Environment Officer to seek advice.
15	The summary of the environmental management and protection plan in a matrix form. The summary of the environmental and protection plan must include – i) Environmental issues of the environment to be affected or impacted; ii) Proposed mitigation, control or safeguard measure; iii) Name of institutions responsible for implementing mitigation, control or safeguard measures.
16	Any other additional requirements (information) that may be required.
17	A list of contributors to the reports and their contact details.

5. Environmentally – Significant Activities

(1) For the purpose of section 21 of the Act and Item 3 (b) of the requirement for the environmental impact assessment report above, an environmentally-significant activities are listed in the Schedule.

6. Public Consultation Requirements.

(1) The Principal Environment Officer in setting out the requirements for public consultation, must outline how the applicant must attempt to consult with –

a) Any nearby or adjacent landowners; and
b) Any other person who would have an immediate interest in the activity.

(2) The public consultation requirements may include: -

a) Public meetings and how and when such meetings should be advertised;
b) Written and verbal communication to nearby or adjacent landowners and any other person who has a known interest in the activity;
c) Notice at the proposed project site and public places;
d) Radio announcements
e) Newspaper notifications;
f) The information about the proposed activity that is to be included in the consultation and notices;
g) How long a consultation or notification activity is to be undertaken for;
h) How long the applicant must allow for receiving submissions from the public; and
i) How the submissions must be recorded by the applicant and included in the environmental impact assessment report.

7. Environmental Impact Assessment Report that does not meet the requirements of the Act.

(1) The Principal Environment Officer may inform the applicant in writing that an environmental impact assessment report does not meet the requirements of the Environment Act for publication under section 36 of the Act.

(2) The Principal Environment Officer may state reasons for the decision and, for the purposes of section 34, may request further information that must be included in the environment impact assessment report to meet the requirement of the Act.

Part IV - Seizure of items

8. Seizure of items

(1) An environment inspector may, after seizing any item—

(a) take or move the item to any place the environment inspector considers appropriate; or
(b) direct the—

(i) owner of the item; or
(ii) the occupier of the premises where the item was seized,

to retain the item in any reasonable place and manner that the environment inspector considers appropriate.

(2) As soon as practicable after seizing an item, an environment inspector must—

(a) give a receipt to the person in control of the item immediately before it was seized;
(b) give a receipt to the owner of the item; or
(c) leave a receipt at the place from which the item was seized.

(3) A receipt under sub-regulation (2) must—

(a) contain a description of the item seized;
(b) contain a brief reason for the seizure;
(c) specify the date and time of the seizure;
(d) contain a statement that the owner may appeal to the Minister for the return of item if the item is not connected with a contravention or a possible contravention of this Act; and
(e) be signed by the environment inspector seizing the item.

(4) A receipt may cover more than one seized item.

(5) The owner must be notified to take the seized items, unless a court makes a contrary order, when any of the following occur—

(a) 90 days after the seizure, if proceedings which the item is connected have not commenced before that time, unless there is a written notice from Police Prosecutions or the Attorney General's Office notifying that the case is being processed and the seized item is still required;
(b) the reason for its seizure no longer exists; or
(c) all proceedings to which the item is connected have concluded and any fines or other amounts ordered to be paid by the owner of the item have been paid.
(d) an item that is released to the owner by the Minister under Regulation 8 (6).

(6) Where an owner of a seized item has appealed to the Minister under section 85 of the Act and the Minister is satisfied that the seized item is not evidentiary material then the item must be released to the owner.

(7) The Minister may release any seized item to the owner either—

(a) unconditionally; or
(b) on such conditions as the Minister thinks fit (including conditions about payment of bonds equal to the value of the item).

(8) A seized item is forfeited to the Republic if—

(a) the owner of the item cannot be found after reasonable enquiries;

(b) the owner of the item fails to collect the item after being informed that it is available for collection.

(9) Immunity for seizing items

(a) No civil or criminal proceedings shall be instituted or continued against a person to whom this section applies in his/her official capacity.

Part V – Miscellaneous

9. Repeal of previous regulations.

The Environment Regulations 2001, made on 13 December 2001, and any other regulations made under the Environment Act 1999 and the subsequent amendments are hereby repealed.

SCHEDULE

Environmentally Significant Activities

Activities involving significant coastal and marine impact

1. Extraction of aggregates, stones or shingles, sand, reef mud and beach rock –

   (i) for commercial purposes;
   (ii) for construction work; or
   (iii) in excess of 200 kilograms per year;

2. Clearance of live corals, mangroves and seagrass

   (i) for commercial purposes;
   (ii) for construction or development work;

3. Construction work below the high water mark
4. Construction of seawalls
5. Land reclamation
6. Construction of causeways
7. Establishment of boat channels
8. Dredging

Activities requiring significant materials

1. Brick and tile manufacture
2. Landfilling

Activities involving significant waste products

1. Keeping or producing more than 10 pigs or 20 chickens
2. Operation of landfills
3. Copra processing
4. Operation of waste disposal plants including recycling and collection systems;
5. Building for servicing and repair of vehicles, vessels and aircraft
6. Food processing facilities, canning, bottling and other commercial packaging of food
7. Beverage production or processing in excess of 200 litres per week
8. Commercial tanning and dyeing
9. Chemical treatment of timber

10. Manufacture of paper and pulp
11. Manufacture of cement and lime
12. Operation of a hotel, tourism resorts or estates (commercial accommodation with more than 10 units)
13. Operation of restaurant
14. Operation of desalination plants
15. Operation of waste incinerators
16. Operation of industrial boilers
17. Intensive fish farming activities
18. Operation of agricultural industries.

Activities using significant natural resources

1. The collection of fish to be used as pet fish
2. Collection in Kiribati waters of an organism that is intended to be exported
3. Pearl farming
4. Commercial logging operations

Activities involving harmful chemicals

1. storage or transport of more than 1000 litres of petroleum, not including petroleum in standard fuel tanks of conveyances
2. Operation of gas station
3. Manufacturing and moulding of plastic or fibreglass
4. Pesticide production
5. Use of pesticides in a commercial operation
6. Storage, handling, or disposal of (expired)pharmaceuticals
7. Fertiliser manufacture
8. Use of fertiliser
9. Use of hydroponic systems in a commercial operation
10. Vessel dry docking

Activities involving a significant alteration of the environment

1. Any agricultural activity covering more than 10,000 square metres

Other environmentally significant activities

1. operation of a facility—
   (i) that generates power for commercial purposes; or
   (ii) that has a total expected power generation capacity of 100 kilowatts or more;

2. use or extraction of more than 10,000 litres of water per day from a single source
3. operation of drainage, disposal or sewerage systems

8. oil refining
9. operation of an airport
10. operation of a hospital
11. operation of ports and harbours
12. operation of vessel slip way and dry dock facility
13. operation of a commercial laundry service or laundromat
14. construction of settlements of more than 10 houses
15. disposal of unexploded ordnance
16. environment scientific research activity which involve one of the followings,

    i). drilling, collection of living and non-living specimens or samples, interfere with land and marine habitat and ecosystem including seagrass, coral, and mangrove.

Dated this 13th day of December, 2017

Honourable Alexander Teabo
Minister for Environment, Land and
Agricultural Development

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Mrs. Tessie Eria Lambourne
Secretary to Cabinet

Annex XII - Guidelines for Selecting Borrow Pits or Quarry Sites

1. Quarrying/ Borrow Pits Only approved and permitted quarries or borrow pits are to be used for aggregate mining.

2. The quarry/borrow pit site must meet the following criteria:

i) The area must be away from nuclear test sites.
ii) The area must not be a seabird nesting site.
iii) The area must be away from the Wildlife Sanctuary's restricted areas or declared protected areas under Environment Act of 1999 and Wildlife Ordinance. Protected areas include Motu Upua, Dojin, Tanguoau, Koil, Toyota, Mouakena and the three islets protected areas of Cook Islands, Motu Tabu and Ngaontetaake.
iv) Should not be in an area suspected to contain UXO.
v) Should not be in the beach of the ocean side of the atoll
vi) Should not destroy any coral reef or habitat.

3. A simple Quarry Management Plan is to be prepared for each quarry or borrow pit site which outlines the opening activities, operations, site closing activities and the environmental effects and management of them.

4. The Contractor will determine the most appropriate quarry sites based on test results for suitable aggregates or embankment materials.

5. Mining Licenses and Environment Development Licenses must be applied for by the civil works contractor(s) for each quarry or borrow pit required.

6. No extraction of materials from the any chosen Borrow/Quarry site should be undertaken without securing all the necessary permits.