

Pacific Regional Connectivity Program Phase 4: KI: Connectivity Project (P159632)

Environmental and Social Management Plan

Ministry of Information Communication and Transport

Updated – Draft for Disclosure

August 2025

Revised by:

Kiribati Fiduciary Services Unit (KFSU) Safeguards

Ministry of Finance and Economic Development

Bairiki, Tarawa, Kiribati

Table of Contents

Abbreviations.....	v
Executive Summary.....	vi
1 INTRODUCTION	1
1.1 PROJECT INTRODUCTION.....	1
1.2 PROJECT RESTRUCTURE.....	2
1.3 PROJECT ENVIRONMENTAL AND SOCIAL MANAGEMENT.....	2
2 POLICY, LEGAL AND REGULATORY FRAMEWORK	3
2.1 COUNTRY SAFEGUARD SYSTEM.....	3
2.2 INTERNATIONAL TREATIES, CONVENTIONS AND AGREEMENTS	6
2.3 WORLD BANK SAFEGUARDS POLICY FRAMEWORK.....	7
3 PROJECT ACTIVITIES.....	7
3.1 PURPOSE, PLANNING AND DESIGN	7
3.2 ACTIVITY LOCATION	12
3.3 ROUTE SELECTION.....	13
3.4 FUTURE WORKS IN BETIO.....	15
3.5 CONSTRUCTION	15
3.6 OPERATIONS AND DECOMMISSIONING	16
4 BASELINE: ENVIRONMENTAL AND SOCIAL CONTEXT	16
4.1 COMMON BASELINE CONDITIONS.....	17
4.1.1 <i>Physical conditions</i>	17
4.1.2 <i>Biological conditions</i>	19
4.1.3 <i>Socio-economic conditions</i>	20
4.2 TARAWA BASELINE.....	23
4.2.1 <i>Physical conditions</i>	23
4.2.2 <i>Biological conditions</i>	25
4.2.3 <i>Socio-economic conditions</i>	25
4.3 KIRITIMATI BASELINE	28
4.3.1 <i>Physical conditions</i>	28
4.3.2 <i>Biological conditions</i>	30
4.3.3 <i>Socio-economic conditions</i>	31
5 POTENTIAL ENVIRONMENTAL IMPACTS	33
5.1 PLANNING AND DESIGN	33
5.2 CONSTRUCTION RISKS AND IMPACTS	33
5.3 OPERATIONS AND MAINTENANCE	34
5.4 PROJECT HANDOVER	35
5.5 EMERGENCY PREPAREDNESS.....	35
6 POTENTIAL SOCIAL IMPACTS	36
6.1 PLANNING AND DESIGN	36
6.1.1 <i>Land use and access and property access</i>	36
6.1.2 <i>Health and Safety – Design</i>	36
6.1.3 <i>Loss of access to resources</i>	36
6.2 CONSTRUCTION RISKS AND IMPACTS	37
6.2.1 <i>Community health and safety</i>	37
6.2.2 <i>Health and safety – workers</i>	37
6.2.3 <i>Cultural heritage sites</i>	39

6.2.4	<i>Disruption to traffic and road safety hazard</i>	41
6.2.5	<i>Air quality and Dust</i>	41
6.2.6	<i>Damage to utilities</i>	41
6.2.7	<i>Local employment opportunities</i>	41
6.3	OPERATIONS, MAINTENANCE AND HANDOVER	41
6.3.1	<i>Physical environment impacts</i>	41
6.3.2	<i>Socio-economic impacts</i>	42
7	IMPACT MITIGATION AND MANAGEMENT MEASURES	42
7.1	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	42
7.2	EMERGENCY RESPONSE	43
7.3	CHANCE FINDS PROCEDURES	43
8	STAKEHOLDER ENGAGEMENT AND GRIEVANCE REDRESS	53
8.1	STAKEHOLDER ENGAGEMENT PLAN	53
8.2	GRIEVANCE REDRESS MECHANISM	53
9	IMPLEMENTATION	53
ANNEXES		55
	ANNEX 1: STAKEHOLDER ENGAGEMENT PLAN	
	ANNEX 2: BNL ACCESS CONSENT FORM	
	ANNEX 3: GRIEVANCE REDRESS MECHANISM	

List of Figures

Figure 1.1: Location of Kiribati.....	1
Figure 3.1: Location of StarLink Gateway.....	10
Figure 3.2a: Cable route and roll-out plan - Tarawa	11
Figure 3.2b: Cable route and roll-out plan - Kiritimati	11
Figure 3.3a: Map of South Tarawa	12
Figure 3.3b: Map of Kiritimati	12
Figure 3.4: Fibre cable routing – Tarawa.....	13
Figure 3.5: Cabinet placement options – Kiritimati.....	14
Figure 3.6: Location of sites of potential second phase works in Betio.....	15
Figure 4.1: Prevalence of disability by age, sex and region.....	21
Figure 4.2: Topography of South Tarawa.....	22
Figure 4.3: WWII relics and monuments on Betio.....	24
Figure 4.4: Betio land use planning map.....	26
Figure 4.5: Kiritimati island and villages.....	27
Figure 4.6: Kiritimati land use map.....	31
Figure 6.1: BNL job start up procedure dashboard.....	38

Abbreviations

ADB	Asian Development Bank
BNL	BwebwerikiNET Limited (implementing agency)
BTC	Betio Town Council
CCK	Communication Commission of Kiribati (implementing agency)
CESMP	Construction environmental and social management plan (of the contractor)
CLS	Cable Landing Station
ECD	Environment and Conservation Division (within MELAD)
EIA	Environmental Impact Assessment
EODE	Explosive ordnance disposal expert
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
E&S	Environment and social
FDH	Fiber distribution hub
FSM	Federated States of Micronesia
FTTH	Fiber to the household
GDP	Gross Domestic Product
GRM	Grievance Redress Mechanism
ICT	Information Communication Technology
KFSU	Kiribati Fiduciary Services Unit (within MFED)
KPS	Kiribati Police Service
MCIA	Ministry of Culture and Internal Affairs
MELAD	Ministry of Environment Lands and Agricultural Development
MFAT	New Zealand Ministry of Foreign Affairs and Trade
MFED	Ministry of Finance and Economic Development (executing agency)
MICT	Ministry of Information, Communication and Transport (implementing agency)
MRF	Material Recovery Facility
OTL	optical line terminal
PCR	Physical cultural resources
SEP	Stakeholder Engagement Plan
SOP	Standard operating procedure
SPREP	Secretariat of the Pacific Regional Environment Program
TACL	Te Atinimarawa Co., Ltd
TAK	Tourism Authority of Kiribati
TEU	Twenty-foot Container Equivalent Unit
UXO	Unexploded ordnance
WB	World Bank
WPSP	World Bank Safeguard Policies

Executive Summary

The Governments of the Federated States of Micronesia (FSM), Kiribati and Nauru have proposed their joint participation in a regional fiber optic cable system to link Kosrae (FSM), and Kiribati and Nauru, to the state of Pohnpei (capital of FSM) and which currently connects to the existing Hannon-Armstrong (HANTRU)-1 cable to Guam. The proposed multi-national cable system is known as the East Micronesia Cable System.

The Kiribati Connectivity Project (the Project) will require limited land-based infrastructure; will have minimal environmental and social impacts that are generally site specific, limited in scale and extent and can be fully mitigated; will require no involuntary land acquisition; and will use existing infrastructure for conveying land-based cable or where new infrastructure is required, use existing government easements and leases. There are no new undersea cable connectivity (sub marine cables) included in the project.

The project was restructured in response to a request from the Government of Kiribati, a level-2 restructuring was approved on 28-Nov-22 and countersigned 01-Dec-22 to amend the components and costs to finance other priority digital development activities, revise the results framework, extend the Project closing date until 30-Nov-26, reallocate funds between disbursement categories, revise the implementation arrangements and update the disbursement estimates and implementation schedule.

The Project is subject to World Bank Operational Safeguard Policies, two of which are triggered – OP 4.01 (Environmental Assessment) and 4.11 (Physical Cultural Resources). An Environmental and Social Impact Assessment (ESIA) was developed during project preparation. The ESIA also demonstrated that the environmental and social risks and residual impacts associated with project components in Kiribati will be low and could be captured in an environmental and social management plan (ESMP). The project restructure did not change the E&S risk classification of the Project, however the project is no longer expected to impact biodiversity values that are natural habitat qualifying or include any project component sites containing areas of natural habitat.

The ESMP has been further updated in 2025 to include the potential E&S risks and impacts associated with additional components including being financed under the Project: installation of the StarLink Gateway in Nanakai (Tarawa), and the fiber roll-out (connections to homes and offices) in Tarawa and Kiritimati.

The updated ESMP follows the requirements of the Environment Act 2021 and Environment Regulations 2017 and will be submitted to the Environment and Conservation Division (ECD) for clearance under the country system.

A stakeholder engagement plan (SEP) for the project is developed which seeks to define a technically and culturally appropriate approach to consultation and disclosure. Complementing the SEP is the project grievance redress mechanism (GRM) that will seek to resolve complaints by taking action and providing feedback in a timely, effective, and efficient manner that satisfies all parties involved. The GRM includes the option for a complainant to seek redress through existing national systems if they remain unsatisfied at the close of the project GRM process.

The World Bank (WB), through the International Development Association (IDA), is providing grant financing for the Project to improve digital and internet access for Kiribati.

Project executing and implementing agencies. The Ministry of Finance and Economic Development (MFED) is the project executing agency and Ministry of Information, Communications and Transport (MICT), BwebwerikiNET Limited (BNL) and the Communications Commission of Kiribati (CCK) are the agencies responsible for project implementation.

Environment and social (E&S) risk management will be supported by the Kiribati Fiduciary Services Unit (KFSU) Safeguards, which is a central unit established to provide support to World Bank-funded projects. The KFSU is based within the MFED.

1.2 Project Restructure

The restructured project responded to the government's request to finance other priority digital development activities, revise the results framework, extend the project closing date to 30-Nov-26, reallocate funds between disbursement categories, revise the implementation arrangements, and update the disbursement estimates and implementation schedule. The changes are also aligned with the securing of alternate financing for the East Micronesia Cable System from, Australia, Japan and the United States (bilateral development partners).

In accordance with the agreement between Kiribati and its bilateral partners, the WB will no longer finance the cable system to connect Tarawa, Nauru and Kosrae via Pohnpei to the HANTRU-1 cable system.

The restructured project will fund activities to improve connectivity on South Tarawa including: (a) additional satellite capacity for Tarawa to help ameliorate the impact of the delays associated with connecting Tarawa to the East Micronesia Cable System; (b) rollout terrestrial fiber optic access networks and related infrastructure to connect users in Kiribati to the global internet; and (c) deliver additional international satellite bandwidth for other remote communities to reduce the digital divide.

These alternative activities will still support the achievement of the original Project Development Objective (PDO). The project components are discussed in Section 3.

In December 2024, Starlink issued a licence for the establishment of the StarLink Community Gateway in Tarawa. A site was selected in Betio and approved by MELAD in January 2025. Subsequently, the Starlink site was changed to a site in Nanakai to avoid an issue with unexploded ordnance (UXO). Further, the designers undertook an initial survey and prepared a preliminary design of the Kiritimati cable route. This ESMP has been updated to include the new Starlink site, the additional site and design information, and to manage additional E&S risks.

1.3 Project Environmental and Social Management

The project is subject to World Bank Operational Safeguard Policies (WBSP), two of which are triggered – OP 4.01 (Environmental Assessment) and 4.11 (Physical Cultural Resources). The project developed an Environmental and Social Impact Assessment (ESIA) during project preparation and which concluded that the residual environment and social (E&S) risks are rated to be Low, and Project safeguard performance is rated as Satisfactory.

This Environmental and Social Management Plan (ESMP) establishes the elements of the country safeguards system relevant to the project, identifies and assesses the Project's environmental and social risks, identifies appropriate mitigation measures, including responsibilities for implementation. The ESMP incorporates a stakeholder engagement plan (SEP), included as Annex 1, that outlines how the Project will ensure affected and interested parties will receive information and be engaged and consulted throughout the life of the project. The ESMP has been updated site and design information and the consultation with stakeholders on the activities in 2025.

It is the responsibility of the project implementation unit (PIU) to ensure that this ESMP is fully implemented during delivery of the project. The ESMP shall form part of any bid and contract documentation, TOR or partnership agreements for physical works, and it shall be the PIU's responsibility to ensure that all procurement documents¹, partnership agreements and contractual specifications include this ESMP and the environmental license issued by the Environment and Conservation Division (ECD) to ensure that all relevant safeguard requirements of the Government and WB are captured at the bid stage and in all contracts.

The updated ESMP will be publicly disclosed on the project website² by the MICT, BNL and the CCK as the implementing agencies. A public radio flyer advertisement and/or Facebook post on MICT Facebook page will alert the public to the disclosure of the instruments. Likewise, MICT will ensure that several copies of all prepared E&S risk management instruments are available locally at their offices and easily accessible to affected groups and local non-governmental organizations (NGOs).

2 Policy, Legal and Regulatory Framework

This section describes the legal and regulatory instruments relevant for evaluating and managing the environmental and social impacts of the project that includes:

- Country safeguard system (CSS) which includes the policy, legal and administrative frameworks relevant to the project;
- World Bank Safeguards Policy (WBSP); and
- International and regional treaties, conventions and agreements.

2.1 Country safeguard system

Environment Act 2021. The Environment Act 2021 is the primary environmental legislation that provides for the protection, improvement and conservation of the environment in the Republic of Kiribati. The Act is supported by the Environmental (General) Regulations 2017.

¹ January 2017 version of the World Bank standard procurement documents.

² <https://www.mict.gov.ki/projects/kiribati-connectivity-project>

Under Part IV of the Environment Act 2021 an Environment Licence is required for all activities that are deemed environmentally significant, as listed under the Schedule of the Regulation and the requirements for the Environmental Management Plan (EMP).

The earlier Environment Act 1999 established the (ECD within the Ministry of Environment, Land and Agricultural Development (MELAD) 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 licence requirements including need for the environmental management plan, 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 2021 provides for the protection, restoration and enhancement of Kiribati's natural, social and cultural environment through the following thematic areas and programs

- Waste management, litter and pollution prevention
- Protection, conservation, management and sustainability of biodiversity
- Climate Change
- Environmental Licensing and EIA system
- Enforcement and Compliance
- Data management, awareness and outreach

Occupational Health and Safety Act 2015. This Act sets the country's comprehensive framework for occupational safety and health standards for the workplace. The Ministry of Labor and Human Resources is responsible for enforcing the standards. Employers are liable for the expenses of workers injured on the job. By law workers may remove themselves from situations that endanger their health or safety without threat to their employment. The Employment and Industrial Relations Code 2015 includes provisions supporting the Minimum Age Convention and other relevant conventions relating to working conditions for children, including the definition of a child meaning "a person under the age of 18 years".

Biosecurity. The purposes of the Biosecurity Act 2011 are to prevent the arrival, and/or spread, of animal and plant pests and disease. The Act is implemented by the Agriculture and Livestock Division of MELAD.

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: (i) the acquisition of the freehold; (ii) the surrender of a lease, sublease, or license; and (iii) the acquisition for a term of years as the Minister may think proper.

Definitions of 'public purpose' include "...*(f) obtaining control over land contiguous to a port; (g) the purposes connected with the construction, maintenance or improvement of a highway; and (h) and other purposes declared to be a public purpose.*"

In determining the amount of compensation to be awarded for land acquired under this Ordinance; the High Court is required to take into consideration; (i) the market value of the land at the date of the notice of intention to take such land; (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; (iii) the damage, if any, sustained by the person interested, at the time of taking possession of the land, 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.

Native Lands Ordinance Cap 61 (1956). Part VI of the Native Lands Ordinance provides for leases. It defines 'native land' as land owned by any aboriginal inhabitant or their descendant. The ordinance reaffirms the inalienability of native land to a person who is not a native, but grants exemptions for alienation of land to the State for public purposes (Sec. 5(2)).

The Native Lands Ordinance states that "no lease or sub-lease shall be granted for a longer period than 99 years". With regard to compensation, the Native Lands Ordinance states "Whenever it appears that any trees, crops or other growth or any fence or other property will require to be removed, damaged or destroyed, a surveyor shall first assess the amount of compensation to be paid and shall give to the owner thereof notice in writing of that amount". The Native Lands Ordinance covers transfer of lease and sub-letting (the lessee will not sub-let the land comprised in the lease or sub-lease without the consent of the lessor) but it does not cover changes to the purpose or usage of the leased land. It can be assumed that where an Island Council has leased land for Council purposes, they are free to establish a maritime facility on that land.

State Lands Act 2001. Empowers the state, as the owner of land, to make land available for development purposes including for the permanent settlement of citizens and their families. The state is equally empowered to reverse the transfer of land back to the state, or to another party.

Government Approved Compensation Rate for Trees, Crops and Buildings. Sets out the current compensation rates for all trees, crops and building structures approved by Cabinet. The rates will apply in settings where coconut tree(s) need to be removed. No other trees of values were sighted at any of the proposed sites. The compensation rates provide three different values for coconut trees; AUD \$80 for fruit bearing, \$40 for non-fruit bearing with trunk and \$2 for non-fruit bearing without trunk top.

Cybercrime Act 2021. Is an Act to provide for the prevention, investigation and suppression of computer related offences and for other connected purposes. The Act instructs the formation of a Cybercrime Unit and introduces penalties for (amongst other matters): computer-related fraud; sexual abuse material depicting a child and solicitation of children; and harassment using a computer system.

Kiribati National Information and Communication Technology Policy. The objective of the National ICT Policy is to improve the lives of citizens through further development of the economy and citizens' capabilities, increase availability of affordable and reliable telecommunication services as a key input to economic growth, particularly for presently un-served and underserved remote areas of Kiribati and to provide reliable and affordable telecommunication as also the key to unlocking innovation in other sectors.

2.2 International Treaties, Conventions and Agreements

An important component of the CSS are the international conventions and agreements that Kiribati has ratified or is party to. International treaties, conventions and agreements in relation to environment and social matters which are relevant to the project are set out in Table 2.1. Kiribati is a member of the International Labour Organization (ILO) and has ratified several core ILO conventions:

- Forced Labor Convention 1930 (No. 29) – prohibits all forms of forced or compulsory labor
- Freedom of Association and Protection of the Right to Organize Convention 1948 (No. 87) – upholds workers' and employers' rights to form and join organizations
- Right to Organize and Collective Bargaining Convention 1949 (No. 98) – protects the right to collective bargaining
- Equal Remuneration Convention 1957 (No. 100) – promotes equal pay for men and women for work of equal value
- Abolition of Forced Labor Convention 1957 (No. 105) - reinforces the abolition of forced labor
- Discrimination (Employment and Occupation) Convention 1958 (No. 111) - prohibits discrimination in employment and occupation based on race, color, sex, religion, political opinion, national extraction, and social origins
- Tripartite Consultation (International Labour Standards) Convention 1976 (No. 144) - promotes the implementation of the International Labor Standards of 1980, and
- Seafarers' Identity Documents Convention (Revised) 2003 (No. 185)- the use of biometric data as a reliable means of identification (including application of the necessary biometric technology and establishment of appropriate infrastructure to control, manufacture and secure the production process of identifiers).

Table 2.1: Multilateral environmental agreements

Year	Convention or treaty
1972	World Heritage Convention for protecting cultural and natural heritage
1986	Convention for the Protection of the Natural Resources and Environment of the South Pacific Region and related Protocols (SPREP Convention)
1988	Montreal Protocol – Convention for the Protection of the Ozone Layer
1989	Basel Convention – Control of Transboundary Movements of Hazardous Wastes
1992	UN Framework Convention on Climate Change (UNFCCC)
1992	UN Convention on Biological Diversity
1994	UN Convention on Combat Desertification (and land degradation)
1995	Waigani Convention – banning importation controlling and managing hazardous and radioactive waste within South Pacific Region
2000	Cartagena Protocol on Biosafety
2001	Stockholm Convention on Persistent Organic Pollutants
2016	Paris (Climate Change) Agreement to the UNFCCC

2.3 World Bank Safeguards Policy Framework

The project is subject to the WBSP. While the project restructure did not change the E&S risk classification of the project, the project is no longer expected to impact biodiversity values that are natural habitat qualifying or include any project component sites containing areas of natural habitat.

The restructured project triggers two policies of the WBSP: OP 4.01 (Environmental Assessment) and 4.11 (Physical Cultural Resources).

The project has been determined as Category B because impacts are generally site specific and largely reversible and addressed through mitigation measures.

Operational Policy 4.01 – Environmental Assessment. The WB requires an environmental assessment (EA) of Category A and B Projects proposed for WB financing to ensure they are environmentally sound and sustainable, thereby improving decision-making.

OP 4.01 requires (i) detailed qualitative and quantitative analysis to determine project impacts, (ii) determination of tangible measures to prevent, minimize, mitigate or compensate for those adverse impacts, (iii) public consultation and disclosure as part of the EA process, and (iv) development and implementation of an environmental management plan (EMP) to address mitigation and monitoring including institutional responsibilities. This policy is triggered for the project. This ESMP satisfies the EA requirements of OP4.01.

Operational Policy 4.11 – Physical Cultural Resources. OP 4.11 seeks to avoid the disturbance and/or destruction of physical cultural resources (PCR) as defined by this policy by the projects activities. PCR includes places of worship, buried artefacts, cemeteries, and archaeological assets, etc.

The policy further requires (i) the EA to undertake an exhaustive desk review and/or site investigation to pre-identify and locate any PCR in the project impact area, (ii) EA/EMP to propose management measures, and (iii) to include “chance find” clauses in civil works contracts during construction and maintenance stages. No PCR were identified during the baseline surveys. Due to the small infrastructure footprint, there is a low likelihood of PCR being discovered during construction. To adopt a precautionary approach a chance finds procedure has been included in the ESMP.

3 Project Activities

3.1 Purpose, Planning and Design

The restructured project includes three components as described below. In 2024, the government received a licence to establish a Starlink Community Gateway, the design of the Kiritimati cable route was surveyed in January 2025, a preliminary design developed, and a roll-out plan (household and office connections) on Tarawa and Kiritimati. Potential sites for the Starlink were identified in Betio and Nanakai, with the Betio site being initially selected. However, an UXO hazard was discovered at that site and subsequently the site for the Starlink was changed to Nanakai.

Component 1: Digital connectivity infrastructure. This component will support the development of climate and disaster resilient national digital connectivity infrastructure and it consists of the following;

- (i) Interim satellite capacity to expand the availability of broadband connectivity and lower internet access costs on Tarawa; and scale up satellite capacity to expand the availability of broadband connectivity to reduce the divide between Internet users in main centres and users in remote areas.
- (ii) The constructing and installing terrestrial fiber optic access networks and related infrastructure to connect users in Tarawa to the global internet.
- (iii) Regional Internet (IP) Transit Capacity to purchase Internet IP transit capacity on Guam to provide access to international connectivity services. This component will be implemented by BNL in collaboration with FSM.

Component 2: Enabling environment for digital connectivity infrastructure and services.

This component will strengthen and improve the digital connectivity infrastructures and services and it consists of the following sub-components: (i) technical assistance and institutional capacity building to BNL to strengthen its capacity as the owner and operator of core digital connectivity infrastructure for Kiribati, which includes support for the preparation of consortium arrangements with FSM; and (ii) design and procurement of regional satellite contract(s) for Kiribati and FSM; procurement of regional IP transit capacity; arrangements for wholesale supply of internet capacity to downstream users; and the preparation and implementation of the fiber infrastructure to connect users in Kiribati to the global internet.

Technical assistance and institutional capacity building for the CCK to strengthen the legal and regulatory enabling environment; harmonize market rules; and lower regulatory barriers to promote private sector investment across the North Pacific region. This subcomponent will strengthen the capacity of the CCK to fulfil its responsibilities and mandate under the Communications Act, as well as such other responsibilities that may be conferred on it from time to time, including licensing, interconnection, wholesale access, spectrum issues, quality of service monitoring and enforcement, technical regulation, and leadership and advocacy issues in the long-term interests of users.

This component also includes technical assistance and institutional capacity building for the MICT to develop and strengthen the policy, legal and regulatory frameworks supporting digital connectivity and closing the digital divide and to promote competition, encourage new private sector led investment. This subcomponent will also support activities to increase broadband access and use on a gender informed basis and ensure that more people, particularly the most vulnerable, are included and able to access digital connectivity services.

This will include policy development, research, monitoring and evaluation, citizen engagement, and outreach activities relating to digital literacy and digital skills.

Component 3: Project management and implementation support. The component will support the PIU's management and implementation of the project for all implementing agencies, including financing of training and operating costs.

The PIU will be responsible for overall project management, administration and coordination, including procurement, financial management, auditing, monitoring and evaluation, communications and safeguards.

StarLink Gateway. A contract was signed between BNL and Starlink on 01-Aug-24 for the supply of interim broadband satellite capacity and IP Transit services for Kiribati. Starlink received a right to operate license from the CCK on 06-Dec-24. In November 2024, the initial location proposed for the Starlink Gateway was not agreed by the Lands Commission. BNL identified an alternative location, opposite the Te Atinimarawa Co., Ltd (TACL) aggregate depot in Betio, and this site was pursued as the preferred site. However, an UXO hazard discovered at the Betio site required BNL to secure another alternative location and to obtain the necessary approvals. The new location in Nanekai, South Tarawa is shown in Figure 3.1.

Figure 3.1: Location of StarLink Gateway – Nanekai, South Tarawa



The new site is private land owned by Vodafone which will be leased by BNL with contract negotiations still ongoing with the aim Vodafone will clear site and hand over a clean greenfields site. The work involves ground levelling and preparation for installation of antenna, and some trenching for installation of services. No large-scale civil works are required. The site clearance and preparation activities will include:

- Clear the site
- Arrange PUB for power disconnection to the hut and capping of the water / wastewater before the hut is knocked down and removed
- Trenching in new ducts for power and comms with a minimum of 450mm cover
- Scrape and level the area of land
- Bring in gravel and compacting as a base for the Starlink Community Gateway
- Loading each community gateway onto a truck and transporting to site
- Move each unit into position on site, and
- Arranging PUB to reconnect power.

The machinery to be used includes a mini excavator, flatbed truck and forklift / tele lift.

Fiber roll-out. The project will support the fiber roll out to Tarawa and Kiritimati island (Figure 3.2a and b).

As per the recommended FTTH design concept, the fiber cable will be deployed from the cable landing station to be built in Nanikai village through the main duct along the main road traversing south Tarawa. There will be in the order of 72 manholes along the 32km main road to access the main ducts with a depth of 60 cm and pit size of 60mm.

The spacing and presence of the manholes along the main road vary and are irregular, some with 200m, some with 2.2km spacing and some even non-existence. The FTTH design consideration recommended the use of micro-trenching to deploy an underground micro duct from the pits of the main duct to the homes, schools and offices.

The fiber roll-out plan for South Tarawa is in place and in early 2025 the large-scale roll-out will start. The first deployment areas cover the Government center in Bairiki, Parliament and Betio and will be ready for customer connections by early Q2, 2025. The full network rollout on South Tarawa ready for end-user connections is forecast for completion by the end of 2025. The roll-out plan has been discussed with the two main operators, Vodafone and Ocean Links.

Current estimate is that prioritising Starlink would bring the first customer online (via Starlink uplink) by April 2025 (assuming optical line terminal (OLT) at Bairiki can connect to Starlink without going through the main aggregation site). Current estimate is that Betio customers would have uplink via Starlink end April or early May 2025. For Kiritimati, the roll-out will follow that of Tarawa, and will likely take place between June and July.

As explained in Section 6.1, BNL has established household and office access protocols that will be guide the fiber roll-out process.

Figure 3.2a: Cable route and diagram of roll-out plan for Tarawa

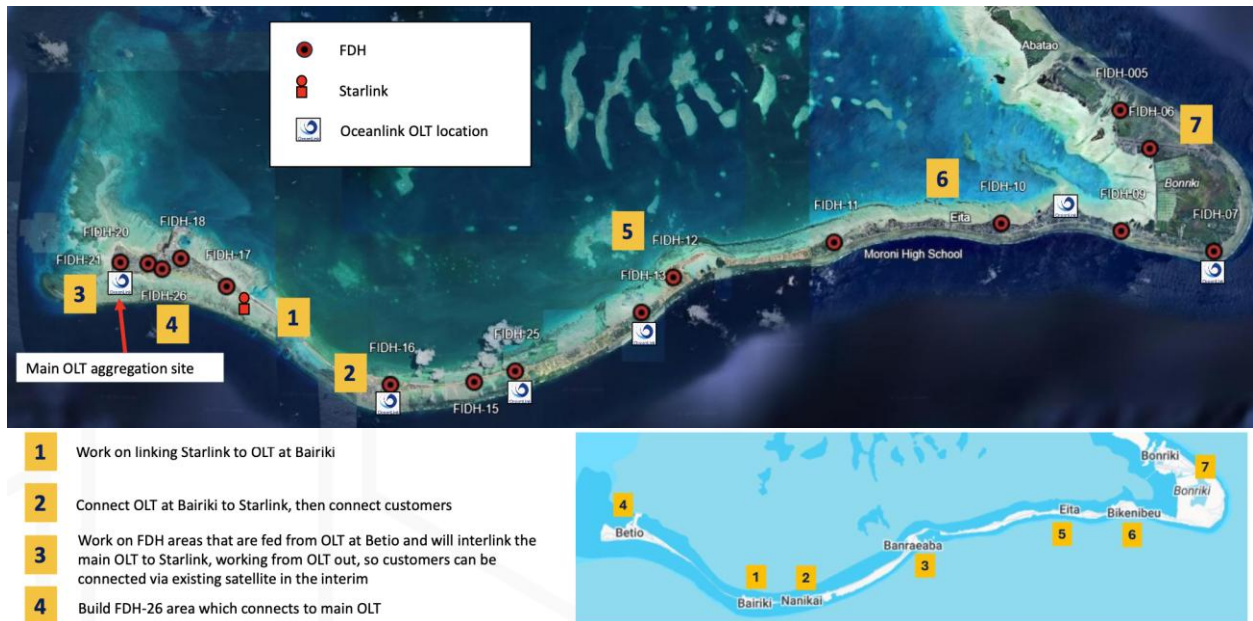


Figure 3.2b: Cable route and configuration and location of main links on Kiritimati



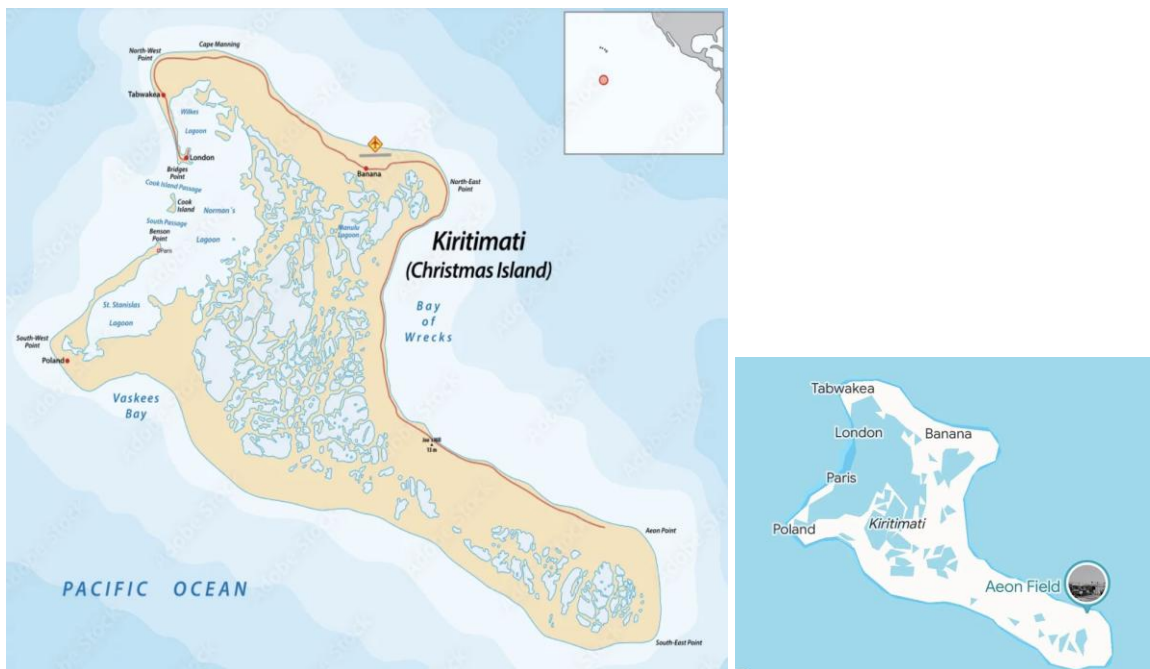
3.2 Activity Location

Physical works under the Project will involve the laying or deployment of fiber optic cable across South Tarawa (Figure 3.3a) and Kiritimati (Figure 3.3b) through the existing main duct along the main road and to extend the cable to places of residence, schools, businesses and offices. The exact location for trenching will be determined during Project implementation.

Figure 3.3a: Map of South Tarawa



Figure 3.3b: Map of Kiritimati



3.3 Route Selection

On Tarawa, the main cable routing will be confined to the main road and feeder road corridor (Figure 3.4). The main and feeder road corridor is clear from infrastructure except for road signages, pedestrian way and underground utility lines, which would be temporarily disrupted. The use of micro-trenching along the existing ducts of the main road for the cable routing would significantly minimize disruption and damage to the road infrastructures and public utility lines. Deploying the fiber cable to houses, schools, businesses, and offices needs proper mapping and surveying, and when combined with the micro-trenching techniques, would minimize adverse effects to people's properties, avoid culturally sensitive and significant areas such as graveyards and to avoid damage to utility lines (Plate 3.1 a and b).

Figure 3.4: Fibre cable routing map on Tarawa



Plate 3.1 a and b: Existing duct (a) and road corridor (b)



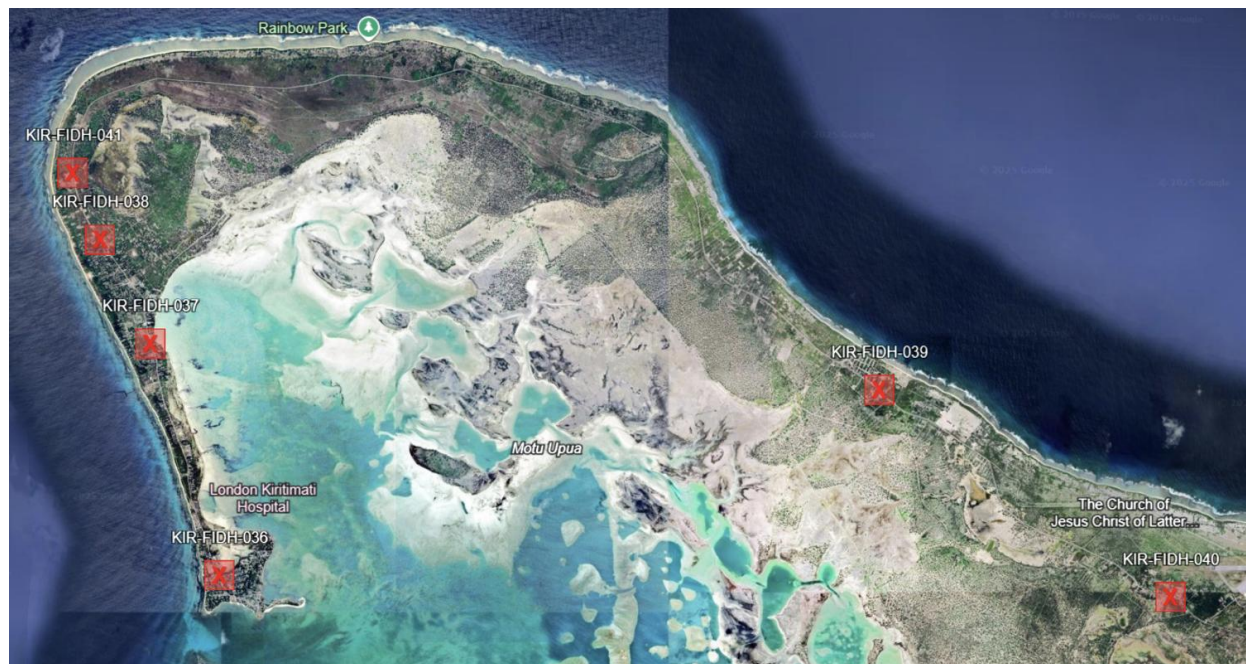
(a) Manhole access to existing duct



(b) Typical pedestrian way within the main road corridor

On Kiritimati, given the layer 1 network arrangement, above ground fiber distribution hub (FDH) cabinets are the only practical option. Similar to South Tarawa, it is proposed to use a 432 cabinet, with 72 feeder ports. Figure 3.5 shows a nominal placing of cabinets sufficient to service the existing households assuming a 100% uptake (six cabinets in total)

Figure 3.5: Cabinet placement options on Kiritimati



The roll-out plan includes allowance for greenfield new developments e.g. there could be an additional 2000 households in the Tabwakea and New Banana areas. While it is important to dimension the network for additional homes, the number and their distribution is not known so the proposed approach is to not build any infrastructure downstream of the FDH, including the FDH itself. The ADSS cable that currently traverses these areas must have sufficient capacity to service these areas. Additional feeder control joints can be placed in these areas in anticipation of additional FDH cabinets or carrier OLT locations.

There will be underground joints to join the aerial sections (assumed nominal ADSS cable drum length of 4km). The joints will be placed for: joining sections of ADSS where maximum drum length is reached, providing an interconnection point for an FDH cabinet, OLT location or cable landing station, and providing a future interconnection of a future FDH cabinet placement. The general joint placement will be every 4km, however in areas where new developments are anticipated, joints will be placed in strategic locations in anticipation of future FDH cabinets.

It is intended to run an aerial feeder/core cable from the lodge just north of Ayoub Itoin Mainiku High school which will be the only feeder/core route. It is also intended to run an aerial route from this location to London which will be used as a diverse route in case the underground core/feeder cable fails.

3.4 Future Works in Betio

In a still to be confirmed second phase, after completion of the Starlink site, a review will be undertaken of four potential sites for works in Betio to confirm if these fall within the confines of the road access corridor. The sites are identified as below and shown on Figure 3.5:

- Site 1 - Maritime Office Feeder – FDH 17
- Site 2 - South Tarawa Port – FDH 18
- Site 3 - Oceanlink OLT – FDH 21
- Site 4 - Government Buildings – FDH 18.

Figure 3.6: Location of sites of future works in Betio



3.5 Construction

The main construction activity would be the laying of the fiber cable across south Tarawa through existing main ducts along the road corridor and extending the fiber cable to houses, schools, businesses and offices through shallow trenching.

Summary of activities. The following key activities will be undertaken for the deployment of the fiber cable along the main and feeder road corridor and to houses, offices and schools

- Cleaning of existing main duct (which will be subject to survey and confirmation that the 'reserved' ducts are still unoccupied and have not been used by some other entity)
- Deploying the fiber cable through the manholes of the existing main ducts along the road corridor
- Trenching along the main road corridor at areas where there are no existing main ducts
- Trenching along the feeder roads to allow the deployment of the fiber cable to houses, schools, businesses, and offices

- Installation of cable distribution facilities and infrastructure such as the OLT and cabinets (including some aerial reticulation on Kiritimati)
- Backfilling and compaction of dug areas along the main and feeder roads and the restoration of road infrastructure such as road signages and pedestrian way, and
- Improved satellite connectivity for the outer islands – a small pole will be installed next to Island Council offices on the outer islands to place a satellite dish at 6-10 meter above ground, and a satellite unit.

3.6 Operations and Decommissioning

The Project's operation phase will be the deployment of a much faster, cheap and reliable internet service. The Project will complement the Government's digital project to provide services via digital methods. In the event of a power outage the internet connection supply will be maintained through the provision of a backup power generator and built-in redundancies of the network system. All infrastructure will be built to withstand foreseeable extreme weather events and the facility will be secured to reduce the risk of vandalism or other public access.

Maintenance and scalability. Once the fiber cable is deployed and the associated infrastructures and facilities such as the OLT and cabinets are established, regular defect monitoring will be carried out by BNL for maintenance and replacement of components that reach the end of their serviceable life.

Decommissioning. Should the project be decommissioned in the future, it is anticipated that all materials and equipment will be removed from the site, subject to the future use of the site and relevant approvals. Also, suitable equipment materials will be taken away for recycling where feasible, and the site will be rehabilitated and stabilized to a condition suitable for future land use.

4 Baseline: Environmental and Social Context

This section presents the baseline data describing the physical, biological and social context of the project area, which will be used to benchmark future monitoring.

Characteristics and conditions common to both areas, and wider Kiritibati are described for context, followed by more detailed description of the project influence areas (PIA) on Tarawa and Kiritimati, considered for the assessment of the baseline conditions of the fiber cable network route along the existing road alignment from the cable landing station sites and to private homes, offices and schools from the main distribution centers through the subducts. The PIA is defined by the project footprint including all ancillary project components and potential impacts on the environmental (physical and biological), economic, social, and built resources.

4.1 Common Baseline Conditions

4.1.1 Physical conditions

Location and topography. Kiribati is self-designated as a small island developing state and is also classified by its development partners as being a fragile and/or conflict affected situation. Kiribati is one of the most geographically remote island nations, with 21 inhabited islands (flat atoll islands and one raised coral island) scattered across 3.5 million km² of the Pacific Ocean. Its remoteness is compounded by the geographic dispersion of its islands, with a staggering distance of 3,285 km between South Tarawa (the country's capital) and Kiritimati. The total land area of Kiribati is only 811 km². Most of islands are only a few hundred meters wide and no more than two meters above average sea level and are at risk of climate change.

The country is divided into three island groups: the Gilbert Group in the west, the Phoenix Group in the centre, and the Line Islands in the east. The Gilbert group comprises of 17 islands with a total land area of 286 km². Tarawa, an atoll in this group, is home of the Kiribati government, the port of entry and the international airport. The Phoenix group has eight islands and atolls with a total land area of approximately 29 km²; all are low, sandy atolls. All of the islands in the Phoenix group are uninhabited, except for a few families who live on Kanton Island. The Line islands consist of a total of eight islands and atolls covering an area of 497 km², including Kiritimati with a land area of 384.5 km² and which is the largest atoll in the world.

Climate. Kiribati has a hot, humid tropical climate influenced by the surrounding ocean temperatures. The average temperature is about 28.3°C. Kiribati experiences two main seasons: a dry season (June-October) and a wet season (November-April). The wet season sees the highest rainfall, with around 2,100 mm annually, while the dry season is marked by the lowest rainfall. The wet season extends from December to May and rainfall variation is high on most of the islands. The drier Southern islands have an average yearly rainfall of 1,000 mm while that of the Northern islands (including Tarawa) has annual rainfall of 3,000 mm. Low temperatures are experienced during heavy downpours accompanied by strong winds over long periods. Between December to March Kiritimati islands experience the northern trade wind while the south-east trade wind comes in between June and September.

The presence of the ITCZ during December to May contributes to higher rainfall during this period. The El Niño-Southern Oscillation (ENSO) significantly impacts Kiribati's rainfall variability, with El Niño years potentially leading to extreme rainfall runoff.

The rainiest years in the historic records are generally related to El Niño cycles, while the driest years are generally related to La Niña events. In years where La Niña events occur the total annual precipitation can be as low as 630 mm (producing severe droughts, with several consecutive months with hardly any rain), but in years associated to El Niño events, precipitation can be above 3,000 mm leading to flood events.

Climate change and vulnerability. Kiribati faces development challenges due to its vulnerability to climate and external shocks. Rising sea levels, coastal erosion, storm surges, and saltwater intrusion threaten the country's coastal fisheries and natural resources, making them vulnerable to damage and loss. This is particularly critical as most of Kiribati's atolls are, on average, only 1.8 meters above sea level. Infrastructure across Kiribati is also critically exposed to the effects of climate change. The following conditions are summarized from is subsection *The Whole-Island Integrated Vulnerability Assessment* (2013) jointly prepared by the government and CSIRO.

Island communities and ecosystems are exposed to a range of inter-related phenomena that affect soft beaches, including inundations, saltwater intrusion, coastal erosion and sea level rise. Trade winds from the northeast and southeast dominate the Gilbert Islands of Kiribati, although rare westerly wind conditions can be experienced during El Niño events. There is a consistent ocean swell from the east driven by these trade winds. More powerful, longer period swells generated by distant storms can also break on the reefs. These tend to arrive from the south in the Southern Hemisphere winter and from the north during the Northern Hemisphere winter. Cyclones can occasionally produce large swells from other directions. Pacific cyclones will not make landfall on the atoll due to its equatorial location, although associated weather systems can result in strong local wind conditions.

Sea level rise. Past measurements by satellite altimeters show that sea level has risen by 1–4 mm per year, which is higher than the global average of 3.2 ± 0.4 mm per year (CSIRO 2013). Sea level rise naturally fluctuates from year to year at levels of about 26 cm and there are also decadal variations. These fluctuations over both time frames are a result of the ENSO phenomena.

Over the course of the 21st century ‘the mean sea level is projected to continue to rise (very high confidence)’ (CSIRO 2013): (i) Mean sea level will rise by approximately 5–15 cm by 2030 and 20–60 cm by 2090 under the higher emissions scenario (moderate confidence); (b) Inter-annual variability of sea level will lead to periods of lower and higher regional sea levels with levels similar to the past; and (c) Sea level rise, combined with natural year-to-year changes, will increase the impact of storm surges and coastal flooding.

Tsunami. Tsunami risk modelling and the limited historical records of tsunami events suggest that Kiribati has a lower tsunami risk than other Pacific Island countries and territories. Kiribati is farther away from the Pacific ring of fire and the distance from an earthquake underneath the ocean is much greater than for other Pacific Islands. Hence, a potential tsunami wave has to travel a long distance and its height decreases over time. While tsunamis have hit Kiribati, the wave amplitude and size of them has been low. This does not, however, mean that the risk of a tsunami occurring is 0. Since 1994 there have been three small tsunami events detected at the Tarawa sea level gauge from the Kuril and Japan Trench. Two events in 1994 and 2006 resulted in waves less than 10 cm in height, while the 2012 event resulted in wave heights of 20 cm recorded at the Tarawa tide gauge. Most recently, Kiribati has been placed under a ‘tsunami warning’ by the Pacific Tsunami Warning Centre.³

Droughts. Due to the high correlation between annual rainfall and the Southern Oscillation Index or the position of the Pacific warm pool means that Kiribati is subject to frequent, long and severe droughts.⁴ According to weather records and observations, ‘the impact of droughts, usually associated with La Niña, can be severe in Kiribati; for example, in 1971, 1985, 1998 and 1999 annual rainfall was less than 750 mm. The recent drought from April 2007 to early 2009 severely affected the southern Kiribati islands and Banaba. During this period, groundwater turned brackish and the leaves of most plants turned yellow’ (GOK 2014). According to climate projections, the incidence of drought will decrease in the future (moderate confidence) (2013).

Extreme storms, storm surges and cyclones. Kiribati lies just outside the main tropical cyclone belt in Southwest Pacific. Tropical cyclones hit about once per year, and rarely pass within 400km of Kiribati.

³ Government of Kiribati. 2014. Kiribati Joint Implementation Plan on Climate Change and Disaster Risk Management. Tarawa, Kiribati

⁴ South Pacific Applied Geoscience Commission. 2007. National Integrated Water Resource Management Diagnostic Report: Kiribati. South Pacific Applied Geoscience Commission, Suva, Fiji.

Three cyclones passed within 400 km of both Arorae Island (west) and Caroline Island (east) between 1969/70 and 2009/10. The Gilbert Islands are considered to be 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. There is a greater increase in losses projected for more extreme events. However, it should also be noted though that there is considerable variation in cyclone and storm hazard patterns across the archipelago and even between islands in the same atoll, due to local variation in geophysical and climatic factors. Coastal inundation is a constant concern on low-lying islands in Kiribati. Because Kiribati is close to the equator (latitude 1°N), it is not threatened by cyclone-generated inundation. Rather, inundation is expected to be triggered by high storm tide levels or swells, or the occurrence of extreme storm and tropical cyclone activity, together. For example, the 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.

Unexploded ordnance. The Kiribati islands were occupied during World War II and many battles were fought on land and sea. Most of the UXO encountered in Kiribati are remnants from this conflict. They include military ordnance such as artillery projectiles, aerial bombs, rockets, mortars and mines. The Battle of Tarawa was fought on 20–23 November 1943 between the United States and Japan on Tarawa Atoll in the Gilbert Islands, and was part of Operation Galvanic, the U.S. invasion of the Gilbert Islands. Nearly 6,400 Japanese, Koreans, and Americans died during the battle, mostly on and around the small island of Betio, in the extreme southwest of Tarawa Atoll. At the time, Betio was only 118 ha. The Battle of Tarawa left behind unexploded ordnance (UXO), posing ongoing risks to the local population and requiring cleanup efforts.

There is also UXO contamination on Kiritimati, particularly in areas of former firing ranges, including in publicly accessible beaches. There had been environmental surveys conducted on the island, as recent as 2004. However, it did not deal with radioactive or UXO contamination. Residents of Kiritimati claim that further military detritus remains offshore or buried underground.

4.1.2 Biological conditions

Terrestrial flora and fauna. Indigenous flora and vegetation of Kiribati is among the least diverse and poorest on earth. Much of this has to do with its soil quality as it is composed mainly of alkaline coral with high porosity. In the Gilbert Islands and some locations in other inhabited islands, this flora has been severely modified or removed. Generally, terrestrial vegetation in Kiribati is limited to coastal strand vegetation, mangroves and coastal marsh vegetation (limited), inland forest, and pinnacle vegetation on limestone escarpments.

Endemic 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.

Coastal and marine biodiversity. Kiribati has a highly diverse, rich and productive coastal and marine ecosystem that supports hundreds of coral species, 500 species of fish, 20 marine mammal species and 2 IUCN Red-listed turtle species. Milk-fish (*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. The coastal areas of Kiribati are characterized by white sandy beaches, reef flats, reef patches, lagoons, mangrove forests, extensive reef mud flats and sea grass beds. These areas contain a variety of habitats, numerous eco systems and marine organisms.

The coastal areas support fishing, recreation, trade and communication. With constant mining of beach sand, gravel and other aggregates for construction purposes, in addition to the threat of sea level rise, the coastal areas are greatly threatened. Ministry of Fisheries and Marine Resources is responsible for the management of marine resources including production of aggregates and sand from the coastal areas. Preventing the destruction of marine resources including coral reefs is necessary.

Protected areas and species. The Phoenix Islands Marine Protected Area is the only protected area in Kiribati formally recognized at an international level. Phoenix Islands Protected Area (PIPA) covers an area of 408,250km² holding some of the world's most pristine coral reefs as well as a great abundance and diversity of tropical marine life. The marine protected area was established in 2010 under Kiribati's commitment under the Convention on Biological Diversity. The area was also designated as the world's largest and deepest UNESCO World Heritage Site in 2010. In addition, there are wildlife sanctuaries located in Kiritimati Island.

The entire island of Kiritimati is a Wildlife Sanctuary and breeding ground in the Pacific for seabirds, supporting 18 different species of birds. Nine protected zones are designated to support the breeding and nesting of the various bird species.

4.1.3 Socio-economic conditions

Population and demography. The Kiribati Census Atlas (2022) determined that the total population in 2020 was 114,549, and a population density of 136 people/km². Some 50.9 per cent are female and 49.1 per cent male giving a sex ratio of 97. (GOK 2018, 2021). The capital, Tarawa, accounts for 47% of the population. The population density is not uniform across Tarawa; South Tarawa, the capital, is much more densely populated than North Tarawa, with a density that approaches 5,500 people/km², with some areas even exceeding 10,000 people/km² i.e. Betio, an island in South Tarawa, has areas with densities as high as 42,000 people/km².

As shown previously in Figure 3.1 and Figure 3.3a, Nanakai is a village in South Tarawa. The village connects the town of Bairiki to the settlement of Teaboraereke. There is one road that passes through the village. The population of Nanakai in 2020 was 1,256.

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.

The economic growth in Kiribati is expected to be moderate to 1.8% in 2022, and 2.3% in 2023. The GDP per capita in 2021 was \$1,937.09 which is one of the lowest in the Pacific countries.

Human development. Kiribati is ranked 137 out of 189 countries on the Human Development Index (2022), with 18 percent of its population living below the poverty line of US\$3.20 per person per day and a Gini index of 27.8 (2019), indicating a relatively low level of income inequality.

The Kiribati nation's small size and remote location significantly limit its economic opportunities, imposing constraints on trade, investment, and growth. It creates little formal employment opportunities or private sector jobs. Livelihoods are being subsidized across the country by unsustainable copra subsidies. Other livelihoods include artisanal fishing and subsistence farming, and the country's economy hinges on limited sources: sovereign wealth, fishing fees, remittances, and official development assistance.

According to the 2020 Kiribati national census, Kiritimati Island had several of the following socio-demographic and living standards characteristics:

- High unemployment and low labor market participation - combined 56% of 15yrs+ population vs. an average of 49% average of all islands,
- Low levels of participation in enterprise activities - 14% of households of 'income from own business' vs. 22% for the average of all islands, which is also the same as in South Tarawa,
- Low literacy - 27% aged 15yrs+ have 'some' or 'a lot of' difficulty writing or cannot write, compared to 22% average of islands and 12% in South Tarawa.
- In Kiritimati Island 40% of households have no toilet ("no facility or use beach, bush etc."), i.e. open defecation, and 39% of households use groundwater as drinking water via protected (21%) or unprotected (15%) wells.

Poverty and vulnerability. 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, 2012).

Poverty and disability. Estimates of the poor in Kiribati range from 19.8% (UNDP, 2023) to 21.9% (World Bank, 2022).⁵ The analyses find that the poverty gap is 2.5% and poverty rates vary by geographic location, education level and labour market characteristics of the household.

The highest rates of poverty are in the Southern Division (32%) and Northern Division (26%); however as these regions have relatively small populations, they collectively only account for around 40% of Kiribati's poor. In terms of distribution of the poor, some 47% of the poor are in South Tarawa, 41% are in the northern and southern divisions and 8% of all poor are located in the Line and Phoenix Islands division. Nationally, 21.3% of male headed households and 23.2% of female headed households are poor.

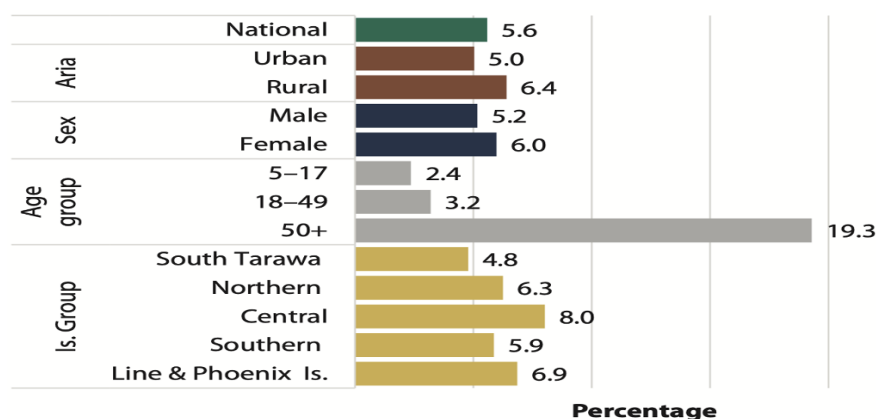
⁵ UNDP. 2023. *Briefing Notes for Countries – 2023 Multi-dimensional Poverty Index: Kiribati*; SPC + World Bank. 2022. *Poverty in Kiribati based on analysis of the 2019/20 household income and expenditure survey*.

UNDP data indicates that a further 30.2% (approx. 39,000 people) is classified as vulnerable to multi-dimensional poverty.⁶ The rate of people living with multi-dimensional poverty is 40.5% while the value (i.e. the share of the population that is multi-dimensionally poor adjusted by the intensity of deprivations) is 0.080. Kiribati (along with Marshall Islands) show a greater degree of rural multi-dimensional poverty compared with the global rate, with similar levels of average intensities of poverty but greater prevalence (UNDP, 2023). Considering multi-dimensional poverty and monetary poverty (measured by the proportion of the population living below the 2017 poverty line of US\$2.15/day) data shows that the incidence (headcount) of multi-dimensional poverty at 40.5% is significantly more prevalent than the incidence of monetary poverty (19.8%) implying that people above the poverty line still suffer deprivations in health, education, and standards of living.

Two distinct groups of poor exist in Kiribati, which presents a strategic challenge for the GOK. The first group, in South Tarawa, have better access to services, higher levels of human capital, and greater opportunities for formal employment than poor households elsewhere in Kiribati. Despite the apparent economic advantages of the residents of South Tarawa, they are still unable to meet their basic needs. The second group live in the Southern and Northern Divisions and are the most deprived in terms of both monetary and non-monetary measures. The lack of access to services in these divisions means that even most non-poor households do not have access to reliable sources of electricity, safe drinking water, and basic sanitation.

Other vulnerability. The 2020 census summary of people aged 5+ years provides reporting for people with one or more domains of disability. Figure 4.1, based on the 2020 Census, provides data for the prevalence of disability across the country. The prevalence of disability is around 3.2% for people aged 18-49 years and 2.4% for those aged 5-17 years. The Central Island group records more people with disabilities (8.0%) while the South Tarawa group records the fewest (4.8%) compared with the other island groups.

Figure 4.1: Prevalence of disability (pop. aged 5+ years) by region, age group and island group



Source: Kiribati Disability Monograph (2020)

⁶ Multi-dimensional poverty is a measure of overlapping deprivations across ten indicators in three dimensions: health (two indicators), education (two indicators), and standard of living (six indicators).

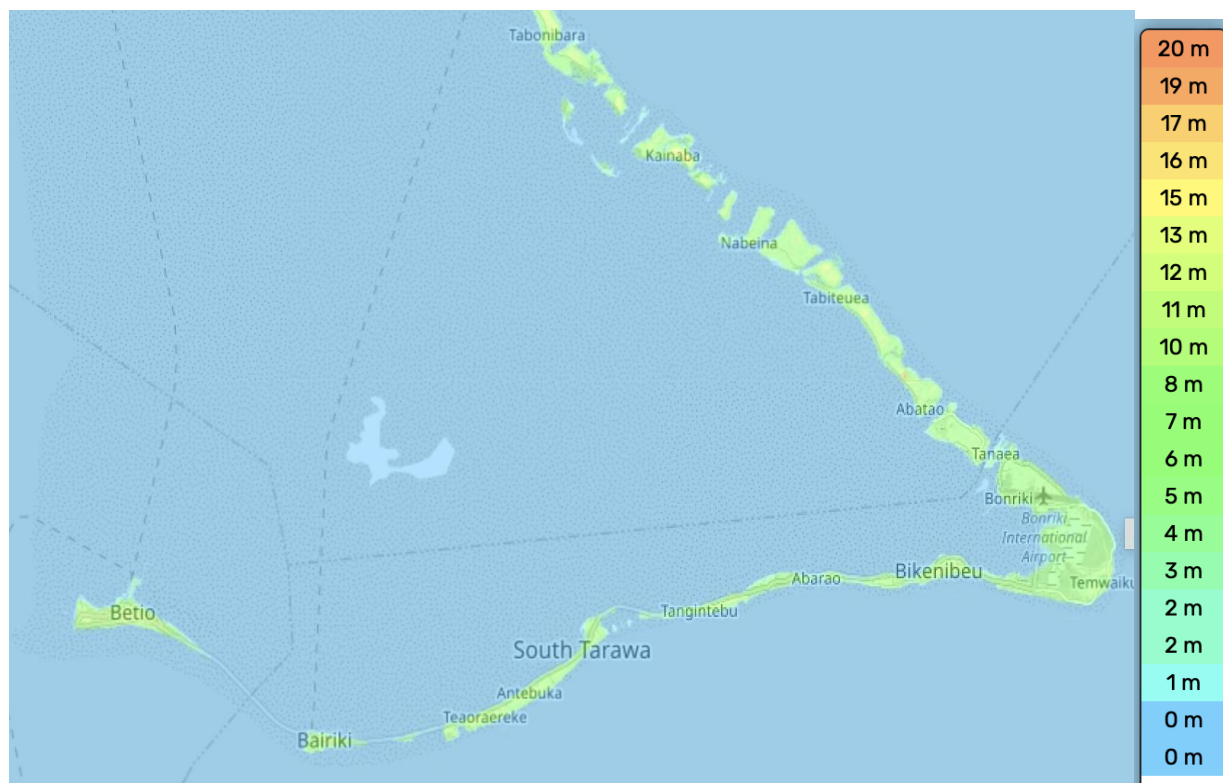
4.2 Tarawa Baseline

4.2.1 Physical conditions

Location and topography. Tarawa is the capital of Kiribati, located in the central Pacific Ocean. It consists of a large lagoon and a fringing reef, with numerous islets forming its landmass. South Tarawa, the most populated area, is densely populated with a significant portion of Kiribati's population (refer Section 4.2.3). The island is less than 3m above sea level and only 450m average width.

Tarawa has a large lagoon (500 km² in total area) and a wide V-shaped reef. The lagoon is widely open to the ocean, with a large ship pass. North Tarawa consists of a string of islets from Buariki in the north to Buota in the south. (Figure 4.2). The islets comprise a coastline of 73km and are separated in places by wide channels that are best crossed at low tide, and there is a ferry service between Buota and Abatao. Only Buota is connected by road to South Tarawa, via a low level bridge. On South Tarawa, the construction of causeways has now created a single strip of land from Betio in the west to Tanaea in the northeast.

Figure 4.2: Location of villages and topography of South Tarawa



Geology and soils. The Tarawa atoll developed from a volcano which appeared between 55 million and 65 million years ago (during the Paleocene geologic epoch). Over time, the peak of the volcano sank below sea level due to subsidence of the ocean floor. The island surface is formed by successive coral deposits around the old and now submerged volcano.

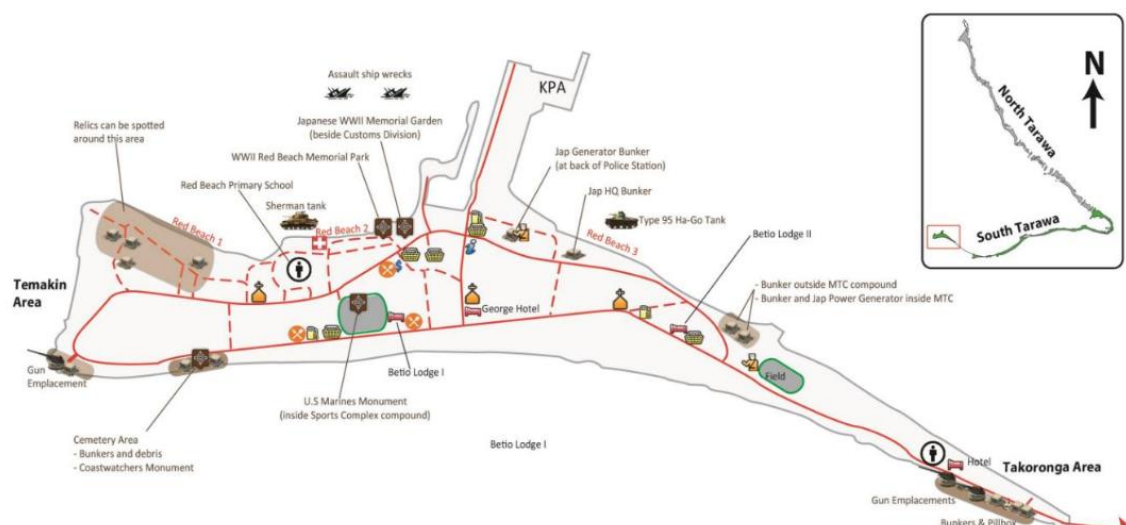
Atolls originate as coral reef formations at the tidal level at the rim of the original volcano, these formations rise in successive layers of dead coral. The atolls of North and South Tarawa, and surrounding reef delineate the edges of the lagoon which occupies the site of the former volcanic core.

In terms of soils, a moderately well-developed A horizon overlying coral sand which in turn rests on cemented beach rock with a lithic contact within 50 cm of the soil surface. Soil profile texture typically shows a dark brown or yellowish brown sandy, structureless AC horizon resting on cemented beach rock. Depth to the lithic contact varies from 25-45 cm. The soil colour varies from dark brown to light yellowish brown. Stones and gravels may be present in the range 0-10%.

Water resources. The Bonriki Water Reserve area has generally flat topography and less than 5m above sea level. The freshwater lens is 3 – 6 m below ground level. The freshwater lens sits on top of seawater connected to the ocean. Water levels fluctuate daily responding to the incoming and outgoing tides. The water table sits above mean sea level (AMSL) up to a maximum elevation of 1.5 m AMSL. The maximum freshwater lens thickness was estimated at approximately 15m measured at the center of the island.

Unexploded ordnance. The Kiribati islands were occupied during World War II and many battles were fought on land and sea. Most of the UXO encountered in Kiribati are remnants from this conflict. They include military ordnance such as artillery projectiles, aerial bombs, rockets, mortars and mines. A fierce battle—the Battle of Tarawa 20-23 Nov-1943—was fought between the Allies and Japanese in Betio, which at that time was only 118 ha. The Battle of Tarawa left behind unexploded ordnance (UXO), posing ongoing risks to the local population and requiring cleanup efforts. A study in 2011 to four Pacific Island Countries including Kiribati assessed the existence of UXO due to the WWII activities. It discovered that around 800 items of UXO were buried at WWI Memorial Park in Betio Island and concluded that: *“UXO remains a serious issue for Kiribati with a number of areas currently affected.”*

Figure 4.3: WWII relics and monuments in Betio



Source: [https://visitkiribati.travel/wp-content/Battle-of-Tarawa-Guide-revised 2019.pdf](https://visitkiribati.travel/wp-content/Battle-of-Tarawa-Guide-revised-2019.pdf)

Unfortunately, insufficient information regarding the numbers of UXO introduced during WWII and removed or destroyed since 1943 make ascertaining the true extent of the current problem difficult. Discussions with local police, government officials and the diplomatic community in Kiribati indicated that UXO continue to be uncovered regularly in affected areas such as Betio as well as the South Tarawa lagoon. Kiribati Police Service (KPS) officials confirmed that about 800 items of UXO were buried at WWII Memorial Park on Betio approximately 10 years ago (Figure 4.3). Sources suggest that more than 2,400 tons of ordinance was fired or dropped onto Betio by the US Military during the amphibious landings. With failure rates for ordinance estimated between 25% and 30% it is probable that a large quantity did not explode. Matters have been complicated by land scarcity resulting in subsequent construction and development in this area. The KPS report that UXO continues to be unearthed regularly during construction projects.

4.2.2 Biological conditions

In South Tarawa, present day vegetation cover is heavily influenced by human habitation and is dominated by coconut palm (*Cocos nucifera*), flame tree (*Delonix regia* sp), breadfruit (*Artocarpus altilis*) and papaya (*Carica papaya*).

Kiribati has a few land mammals, none being indigenous or endemic. They include the Polynesian rat (*Rattus exulans*), dogs and pigs. A total of 75 bird species have been recorded in Kiribati

There is no vegetation along road corridor containing existing ducting from the cable landing stations to the entire island except for some grass cover. The StarLink Gateway site also contains no vegetation that will be impacted by the installation and/or operation.

4.2.3 Socio-economic conditions

There are 14 villages in North Tarawa and 15 villages plus a settlement associated with Nowerewere Causeway in South Tarawa. The land area of South Tarawa is officially recorded as 1,577 ha or about 16 km². Much of this land is not available for use, including the water reserve and runway, the causeways, and a large area of reclaimed land at Temaiku, the eastern corner of the atoll, which is too swampy and low-lying.

South Tarawa is the capital and hub of Kiribati, and home to more than half of Kiribati's population and most of the government, commercial and education facilities in Kiribati including the Port and the High Court at Betio, the State House, Government Ministries and foreign embassies and High Commissions in Bairiki, the University of the South Pacific campus in Teaoraereke. The main settlements are Betio, Bairiki, and Bikenibeu. Betio village is where the main port is located, and the airport is located at Bonriki village. Bikenibeu holds the higher education institutions, and the main religious centres are located at Teaorareke, Antebuka, and Eita villages.

The South Tarawa population consists of people living on all the small islets from Betio in the west to Bonriki and Tanaea in the north-east, connected by the South Tarawa main road. Based on the 2015 Census, the population of South Tarawa was 56,388 (Table 4.1) people living in 7,877 households.

Table 4.1: Population growth in South Tarawa by village

Census area/village	Population (year)		
	1978	2005	2015
Tanaea	27	91	198
Bonriki	635	2,119	2,829
Temaiku	-	2,011	4,072
Nawerewere Causeway	-	1,780	1,843
Abarao	322	908	1,761
Eita	612	2,299	3,395
Tangintebu	128	94	150
Taborio	187	955	1,293
Ambo	-	1,688	2,780
Banraeaba	501	1,789	2,072
Antebuka	504	390	1,615
Teoraereke	848	3,939	5,105
Nanikai	604	803	1,152
Bairiki	1,956	2,766	3,278
Betio	7,626	12,509	17,330
Total	17,921	40,311	56,388

Source: GOK

Between 2000 and 2015 the population of South Tarawa grew by almost 20,000 people. The national growth rate is 2.2%. In 2020 the population was estimated as 63,439. The rapidly growing population is spread over a land area of 15.76 km²; a population density of 3,578 people per km². This represents an increase in density from 3,184 people per km² from 2010. In general, South Tarawa, particularly Betio, is overcrowded. Excluding uninhabitable areas, the land area of South Tarawa is only just over 10 km² and the population density of 49 people per hectare or 4,905 per km² is almost equal to the density of London (5,100 people per km²) and twice the density of Sydney, Auckland, or New York.

A typical household in South Tarawa will: be larger than a typical household on the outer islands (seven people as compared to five); have one to two members earning a salary (71% of household income coming from wages) but in the context of a general shortage of job opportunities, especially for youth; receive more remittances from seafaring than those on outer islands; supplement this with activities like fishing (26% of household income); more likely to have health issues from poor water, sanitation and overcrowding; and have limited access to land.

The growing population and high population density of South Tarawa are exacerbating the issues of waste disposal, sanitation, and environmental pollution. The internal migration towards the hub of central government and the central business district will continue naturally for those who seek a better life for themselves and their family.

BETIO GENERAL LAND USE PLAN

Plan approved by the Honourable Minister for MELAD
on behalf of Central Land Planning Board on

.....
Date

.....
Sign

.....
Name

0 250 500 750 1000 m

Legend

General Land Use Plan Zones

- Civic Use
- Commercial
- Industrial
- Major Road
- Minor Road
- Open Space
- Residential
- Waste Disposal Site
- High Water Mark
- Roads & Access Ways

Waste management. South Tarawa is facing waste management problems due to its limited resources, shortage of land and an increase in urbanization. However, there has been significant progress in strengthening the overall management of solid waste in South Tarawa since 2011 as a result of the 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.

Three landfills on South Tarawa were rehabilitated and new infrastructure (fencing, site offices and compacting rollers) was provided. In recent years, some 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.

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 such as 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.

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.

All wastes collected by the councils and private operators are directly disposed of 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, 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.

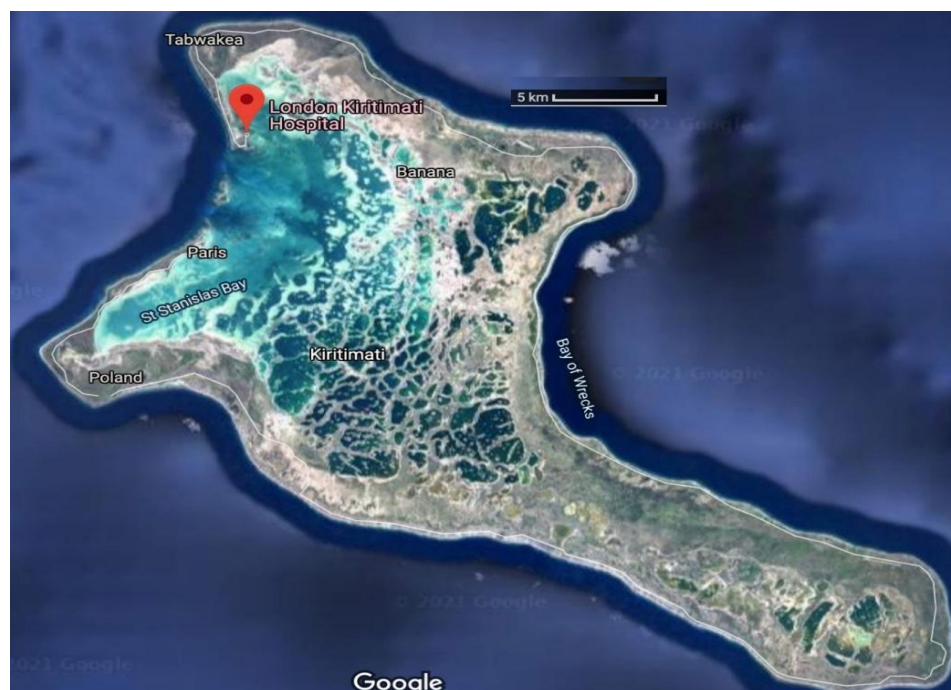
The main sources of e-waste come from the major consumers such as Government agencies, institutions, businesses, and the community. The disposal of all Government purchased assets that would include electrical and electronic appliances, is required to be verified prior to being disposed. This is specified by the Stores Regulation which has been inherited since the colonial days and has not been changed since. 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 has to 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 landfill area given that the government is the major IT technology user in the country.

4.3 Kiritimati Baseline

4.3.1 Physical conditions

Location. Kiritimati Island is a Pacific Ocean coral atoll in the northern Line Islands of Kiribati. The island is considered the largest coral atoll in the world by land area with a total land area of 388.4 km² and an open lagoon of roughly the same size. The atoll is about 150 km in perimeter, while the lagoon shoreline extends for over 48 km. Kiritimati comprises over 70% of the total land area of Kiribati (Figure 4.5) and as of 2015 has a population of 6,456.

Figure 4.5: Kiritimati Island and main villages



Topography. Kiritimati is a single, large, flat island which consists of coral formations 30-120 m in depth overlying volcanic rocks and has a large tidal lagoon covering 16,000 ha and opening to the northwest. At the eastern end of this lagoon, there are several hundred smaller landlocked lagoons occupying 16,800 ha and delimited by causeways and larger tracts of land. Salinities vary widely, and many of the lagoons are super saline. These tidal and landlocked lagoons contain hundreds of islets, the three principal ones being Cook Island, Motu Tabu and Motu Upoa. There are considerable variations in water level, and extensive intertidal mudflats are present. Freshwater lenses occur, with salinities varying between 0 and 3.5 p.p.t., and with a water table generally at a depth of between 0 and 2 m. Thirteen different physical units have been described by Garnett (1983), namely: seaward reef, seaward beach, beach crest, coastal dunes, boulder ramparts, coastal plain, central ridge, inland dunes, lagoon scarp, lagoon dunes, lagoon flats, lagoon beach and lagoon reef. The island rises to 13 m in height at the top of the dunes along the north coast of the Southeast Peninsula. The highest point in the island is Joe's Hill which is only about 13 masl. It is situated on the north of the south-eastern peninsula. A reef platform extends 30-120 m from the shoreline around the whole island, being widest along the north coast.

Soils. Soil development is poor due to the limited supply of organic matter. The soils and substrate of Kiritimati are very infertile. They include young calcareous soils, sandy soils, limited areas of hydromorphic soils, highly alkaline hardpans, and very limited areas of phosphate rich, guano-derived soils under seabird rookeries.

In general, the soils are young, shallow, alkaline, coarse-textured and have carbonatic mineralogy. Because of their immaturity, they vary little from the original coral limestone parent material. They are composed of a variable layer of organic matter and coral sand, foraminifera, fragments of shells and other marine organisms overlaying a limestone platform (Morrison, 1987). (Thaman and Kye, 2015).

Climate. Despite its proximity to the ITCZ, Kiritimati is an equatorial dry zone. As such rainfall is generally low except during El Niño years. Kiritimati is an equatorial dry zone with generally low rainfall (annual average of 873 mm) except during El Niño years. Kiritimati is thus affected by regular, severe droughts. The mean annual rainfall is 873 mm, varying widely between a minimum of 177 mm and a maximum of 2,621 mm. Rainfall is usually heaviest in March and April, and lightest in October and November.

Kiritimati is thus affected by regular, severe droughts. They are exacerbated by its geological structure; climatically "dry" Pacific islands are more typically located in the "desert belt" at about 30°N or S latitude. Kiritimati is a raised atoll, and although it does occasionally receive plenty of precipitation, little is retained given the porous carbonate rock, the thin soil, and the absence of dense vegetation cover on much of the island, while evaporation is constantly high. Consequently, Kiritimati is one of the rather few places close to the Equator which have an effectively arid climate. (Wikipedia). The temperature is constant, ranging diurnally between 24°C and 30°C, with little seasonal variation. The prevailing winds are easterly trades.

Unexploded ordnance. There is also UXO contamination on Kiritimati, particularly in areas of former firing ranges, including in publicly accessible beaches. There had been environmental surveys conducted on the island in 2004. However, it did not deal with radioactive or UXO contamination. Residents of Kiritimati claim that further military detritus remains offshore or buried underground.

4.3.2 Biological conditions

In terms of biological environment, the entire island has been declared Wildlife Sanctuary for birds due to the great variety of sea birds visiting the island to breed. The natural vegetation on Kiritimati consists mostly of low shrubland and grassland. The fauna in the island is scant and consists mainly of taxa adapted to drought and almost none can be considered native to the island.

Flora. The native vegetation comprises forest, scrub, dwarf scrub, grassland, and herb communities. Indigenous forest is restricted to three small groves of *Pisonia grandis* attaining a height of 10 m, at Southeast Point, Motu Tabu and near Northwest Point. There are also Te Ren trees which are used as habitat for the endangered Kiritimati reed warbler and the Line Islands Reeds Warbler (*Acrocephalus aequinoctialis*) being endemic to Kiritimati.

The dominant scrub over most of the island is *Scaevola taccada*, in either pure stands or with *Messerschmidia argentea* and *Suriana maritima*. Lower lagoon flats are dominated by *Suriana*, growing to a maximum height of 2 m. *Messerschmidia* is found mostly on the beach ridge, coastal plain and lagoon shores. *Sida fallax*, reaching 2 m in height, is abundant on the coastal plain to the south and on sandy soils elsewhere. *Heliotropium anomalum* forms a dwarf scrub on beach ridges and boulder ramparts, mixed with *Portulaca lutea* and *P. oleracea*. Extensive *Sida* dwarf scrub, mixed with *Heliotropium*, *Boerhavia repens*, *Portulaca*, *Cassytha filiformis* and *Lepturus repens*, is found in the Southeast Peninsula and southern coastal plains. Elsewhere, *Lepturus*-dominated grasslands cover large areas of coastal plain. The principal herbaceous community is dense *Sesuvium portulacastrum* mat which frequently covers the low-lying, waterlogged lagoon shore. Approximately 5,200 ha in the west have been planted with coconut palms (*Cocos nucifera*), and about 50 other introduced species occur, mainly around villages, abandoned military installations and other disturbed sites. Most alien species are believed to have arrived during the present century. The island has one endemic plant species, *Cuscuta campestris*.

Fauna. The fauna in the island consists of taxa adapted to drought. Terrestrial fauna is scant; there are no truly native land mammals and only one native land bird, the Kiribati's endemic reed warbler, the bokikokiko (*Acrocephalus aequinoctialis*). Kiritimati has the greatest variety and some of the largest populations of tropical seabirds anywhere in the world. Eighteen species of seabird's breed on the island. Thirty-seven species of birds have been recorded on the island, and about 20 of these are known to breed in the island. Only a few of these birds are land birds and these include the bokikokiko, the occasional eastern reef egret (*Egretta sacra*) and possibly a few thriving Rimitara lorikeets (*Vini kuhlii*) an introduced species. On the other hand, seabirds are plentiful on Kiritimati, and make up the bulk of the breeding bird population. Kiritimati's lagoon and the salt-flats are a prime location for migratory birds to stop over or even stay all winter. The most seen migrants are ruddy turnstone (*Arenaria interpres*).

Protected areas. The entire island is a Wildlife Sanctuary. Kiritimati was gazetted as a bird sanctuary in December 1960, under the Gilbert and Ellice Island Colony Wild Birds Protection Ordinance of 1938. The three principal lagoon islets (Cook Island, Motu Tabu and Motu Upua) were declared reserves with restricted access. Lately, the Wildlife Conservation Ordinance CAP 100 and Environment Act 2012 have recognized these sites and six additional sites as protected areas or closed areas, comprising a network of nine protected areas.

Kiritimati being an atoll formation is the largest in the world and is a heaven refuge to 19 different seabird species and three land bird species. The IUCN has in its Red-list of endangered bird species in the world three of Kiritimati bird species namely the white-throated storm petrel, the phoenix petrel, and the Christmas Island reed warbler. The 19 different sea bird species known on Kiritimati dominated all the nine protected areas including their surroundings.

4.3.3 Socio-economic conditions

Kiritimati Island, the country's second-largest settlement, is one of the eight islands comprising the Line Islands archipelago (total population of 10,503 at 2015 Census).⁷ Of the Line Islands, only Kiritimati, Tabuaeran (also known as Fanning Island) and Teraina, have permanent populations.

Kiritimati Island, has a total population of 6,456 according to the 2015 Census count (Table 4.2) and an estimated 7,369 as of 2020.

Table 4.2: Kiritimati population by village

Village	Population (2015 Census)
Tabwakea	3,001
London	1,895
Banana Wells	1,209
Poland	352
Paris	---
Total	6,456

There are five main villages on the island, four populated and one abandoned; Banana, Tabwakea and London, which are located along the main road on the northern part of the island, and Poland (near South-west Point) and unpopulated Paris (near Benson Point), which are across the main lagoon to the south. Paris is an abandoned village and is no longer listed in census reports. The general land uses are shown on Figure 4.6.

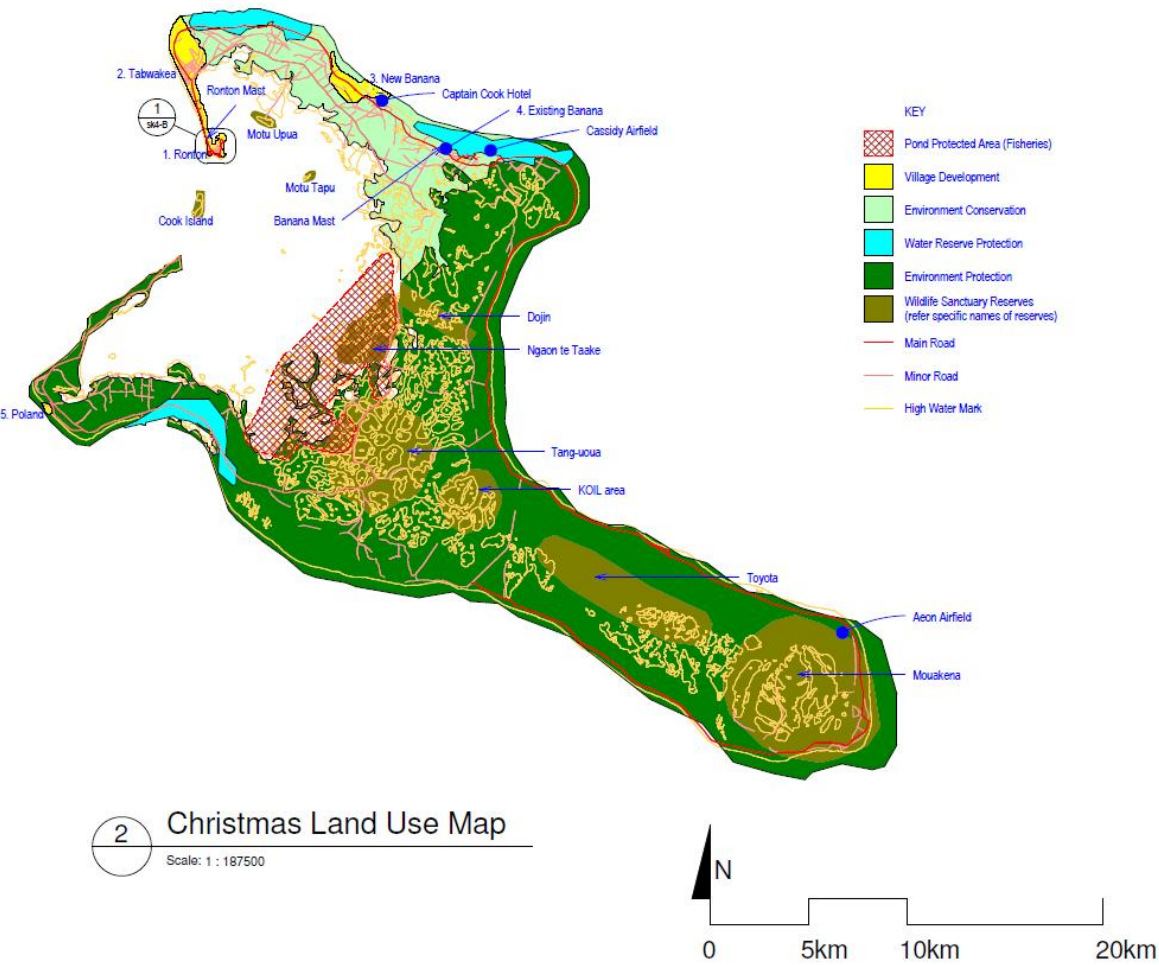
London is the main village and hosts the port facility, and the ministry of the Line and Phoenix islands. Poland hosts a Catholic church, dedicated under the auspices of Saint Stanislaus. Banana is near Cassidy International Airport but may be relocated closer to London to prevent groundwater contamination.

There is a primary school in Poland and two high schools on the road between Tabwakea and Banana: one Catholic, St. Francis High School, and one Protestant. The government high school, Melaengi Tabai Secondary School, is located on Tarawa (though the government has indicated it wants to re-open its campus on Kiritimati instead). The University of Hawaii has a climatological research facility on Kiritimati. The Kiribati Institute of Technology (KIT), based on Tarawa, opened a campus on Kiritimati in June 2019.

The government has identified Kiritimati, as a growth center and plans to develop its economy and resettle people from the over-crowded capital South Tarawa (EC, 2019). This strategy relies on the fact that it possesses the greatest habitable land with sufficient elevation to face the risks associated with rising sea levels and on Kiritimati's great potential for fisheries and tourism. To realize the plan, the Kiritimati Resettlement Program was launched in 2016 and based on data from the Ministry of Line, Phoenix Islands Development, about 2,370 new land leases were opened in 2017 and about 534 have already been awarded, and it was forecast that 1,836 leases will be awarded in 2019. About 540 families are expected to arrive in Kiritimati in the next few years (or around 3,200 new residents in the Island).

⁷ Kiritimati Island lies 232 km north of the equator and 2,160 km south of Honolulu. The island comprises over 70% of the total land area of Kiribati and is an atoll of about 150 km in perimeter with a lagoon that extends over 48 km in length. At approximately 388 km², the island has the greatest land area of any coral atoll in the world.

Figure 4.6: Kiritimati land use map



2 Christmas Land Use Map
Scale: 1 : 187500

5 Potential Environmental Impacts

Environmental risk for the project is considered moderately low as identified in the ESIA of the project, and after the restructuring arrangement of the project, the proposed activities are even less harmful given the reduced scale of the work requiring only minor trenching. In this section potential environmental risks are identified along with mitigating measures.

The main activity of the project is the laying of fiber cable for internet connectivity along the existing main ducts primarily along the lagoon side of the main road from Betio to the Airport in Bonriki. There is a need to extend the main ducts and construct other manholes or install roadside cabinets to extend the main access points in Betio and to Bonriki, Tanea and Buota in North Tarawa. This work will require digging up to 60 cm in depth, and up to 60 cm in width. Other foreseen minor activities include the clearing of ducts covered with grass and plastic wastes, the storage of material and machinery, and the storage and disposal of solid waste and e-waste generated from the work.

As per the ESIA prepared for the project, environmental risks are identified for each stage of the project, such as during planning/design, construction, operations, decommissioning.

5.1 Planning and Design

In the planning and design stage of the project, there are no environmental risks anticipated.

The mitigation hierarchy is to be applied as part of the site selection and cable route determination process to ensure that sites and cable alignments with fatal flaws are avoided.

5.2 Construction Risks and Impacts

During construction, only minor impacts are anticipated to be generated from the construction of the manholes and laying of the fiber cable in the existing ducts along the main road. As earlier highlighted, the environmental risks of the identified activities are very minor, as dust and noise emissions will be generated during the construction phase of the project. As the work will only be carried out along the main road, households are quite far (3-5 meters) from the road where traffic noise and dust emissions are generated. In the construction of the manholes for extending the cable in Betio and to Tanea and Buota, only heaps of sand will be generated and if the sand pile is not levelled properly, it can be hazardous to road users. In the minor clearing of grass that cover the ducts and removal of plastic and other waste trapped inside the ducts, improper disposal and resultant pollution to the environment are the risks. There is a need to dispose of plastic waste using the designated green bags and transport it to the landfill. Any e-waste generated will be managed as per the waste management plan, waste will either be disposed of in consultation with the BTC staff or taken off island as part of the suppliers take back policy.

For the storage and operation of machinery and project tools and materials, hydrocarbon spills are likely during the operation of equipment, which can result in soil and groundwater pollution if spills are not managed and mitigated. A laydown area and bunds for temporary storage areas for fuel or other hazardous substances will ensure that spills are managed properly using spill kits and proper disposal practices. Workers will be trained in how to use the spill kits.

The antenna for the StarLink Gateway will be provided with prefabricated base and foundation, there will be limited or no need for aggregates. In the event that aggregates are required, Te Atinimarawa Co., Ltd (TACL)⁸ has agreed to provide materials to the project. The installation will be undertaken by a small, local workforce. No demolition of any structures will be required. As noted in Section 3, site clearance will be undertaken with any waste and debris being removed from the site. The contractor will develop a waste management plan as part of their CESMP.

While the Starlink site has been relocated to Nanakai to avoid a known UXO hazard, during minor excavation, trenching and site levelling required as part of the cable installation or the second phase works in Betio (as described in Section 3.4), there is potential for discovery of UXO. Works contracts will include provisions regarding engagement of a suitable specialist to survey the area and conduct clearance activities as required adhering to accepted procedures in Kiribati for UXO removal and disposal as part of the specifications in the bid documents and contract.

The contractor will be required to nominate an explosive ordnance disposal expert (EODE). The EODE will have training and qualifications acceptable to the PIU and have experience with UXO identification, removal, haulage and disposal in the Pacific. The EODE will be responsible for disarming/defusing, transport and final placement of the UXO and have sole responsibility to declare site areas safe. The EODE will be subject to the CESMP, as approved by the PIU, and will prepare their own plan for the UXO identification and clearance activities. The contractor is also required to develop (in the pre-construction stage) and implement a chance finds procedure for UXOs (see Section 7.3).

In Kiritimati, the fibre cable may be attached to existing power poles and therefore working at height is an additional risk identified.

The contractor will develop a health and safety plan (HSP) included in their CESMP, this is detailed in Section 6.2.2 and 6.2.3.

5.3 Operations and Maintenance

During the operational stage of the project, the primary potential environmental risks are the dust and noise generated during the trenching works for cable connection from the main duct to the households. The impacts are considered very low given the small scale of the work to be done (the trenching 60 cm for underground cables). There is a small risk of runoff of trenched soil stockpile during maintenance activities and this will need to be managed and controlled through implementation of standard approaches and controls, set out in guidance developed from the contractor's materials management and sediment control plan.

Waste management during operations and maintenance will be likewise guided by good practice and standard operating procedures of BNL and CCK, this includes end of life disposal for fibreoptic cables (see also Section 5.4).

⁸ TACL is a state-owned enterprise established in 2013, it oversees operations of the barge and manages the aggregate processing and depot facility on Betio.

5.4 Project Handover

When the project is in its handover stage for government responsibility and operation, the potential environmental impacts are still considered low and characterized by the removal of waste, including solid waste, e-waste, lubricant oils, and remaining project materials.

Leftover project materials may be given to the public for reuse as part of the 3R+Return (Reuse, Reduce and Recycle + Return) program of the Kiribati Waste Management and Resource Recovery Strategy 2020-2030.

Rehabilitation and landscaping of any laydown areas used on a temporary basis by the contractor will be small-scale and minor as these areas are expected to be small in area given the scope and scale of restructured project. However, the removal of waste, debris, and the handing over of machinery to government ministries or the community should be done in consultation with MELAD.

5.5 Emergency Preparedness

Kiribati is well experienced with managing and recovering from emergencies and disasters. The Office of Te Beretitenti (OTB) led the development of the *Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management 2014-2024* (KJIP). The KJIP is designed to strengthen coordination and communication among the OTB, MFED, Ministry of Foreign Affairs and Immigration and line ministries as well as civil society, private sector, and development partners.

During the project phases, any related project emergency and incidents can happen and the project staff needs to be aware of emergency procedures before the start of any project work, particularly at the induction session to ensure that employees are fully aware of mitigating measures and the reporting procedures. Incidents can be related to environmental, health and safety concerns. Anticipated environmental incidents are oil/hydrocarbon/fuel spillage during the work that can pollute the soil and the groundwater, and employee accidents during the installation work along the road – vehicular accidents and/or electric cable/electrocution. Project staff including, contract employees should be aware of the compulsory wearing of full PPE during the site works to minimize risks to incidents.

Regular induction should be carried out by the contractor for newly recruited employees and site visitors. A public, and labor, GRM should be in place detailing the procedures for feedback and grievances. As detailed in Section 7.2, contractors are required to develop an emergency response plan as part of their construction ESMP (CESMP).

6 Potential Social Impacts

6.1 Planning and Design

6.1.1 Land use and access and property access

Laying the fiber cable through the existing main duct and the digging of new trenches will require access to a land portion along the road corridor. However, since the road corridor is already acquired by the government for the public main road and clear from private and public properties, it is expected that no new land access and acquisition will happen.

Extending the fiber cable to private homes, offices, businesses, and schools from the main distribution centers through subducts will require new shallow trenching on private lands therefore minor land acquisition to allow trenching will take place. Acquiring private lands for new trenching activity will be also temporary.

The proposed system for connections is through customer demand ‘Drops’ (i.e., the connection from the network to the house) as part of the SiteStrax3 system. The Drops process will commence in Q3 2025. Access arrangements with individual households and offices will be negotiated on a case-by-case basis following the roll-out plan. BNL has developed an installation consent form (Annex 2) which will be signed by the household head or office/business owner or manager, as the case may be. For information storage and management and record keeping BNL is considering an electronic version which is integrated within the SiteStrax3 system which is timestamped and stored in a data warehouse.

The project will potentially acquire land to store construction materials and for the equipment and machinery laydown area. This will may restrict or limit the original use of the land by community members. Acquiring land for storage and laydown area will be during construction only and for temporary use.

For the StarLink Gateway, the site is land privately owned by Vodafone who will lease the land to BNL. A lease agreement is currently under negotiation between the parties.

In terms of public access and use, the public do use the area toward the west along the lagoon for camping or picnic. However, access to these areas would always be maintained during construction.

6.1.2 Health and Safety – Design

Effective management of health and safety issues requires the inclusion of health and safety considerations during design processes in an organized, hierarchical manner, and focusing on the elimination of risk.

6.1.3 Loss of access to resources

The Project will not prevent local communities and neighbors to access land resources for livelihood. The digging and establishment of trenches to allow the cable to reach houses will not prevent local communities from accessing their resources for livelihood. Most local communities on south Tarawa grow food crops especially vegetables in their back yards and go fishing at times to supplement their food and diet despite relying mostly on purchased food and supplies.

6.2 Construction Risks and Impacts

6.2.1 Community health and safety

Laying the fiber cable through the existing main duct and the digging of new trenches along the road corridor and the installation of the StarLink Gateway, will pose safety risks to the public including school children using pedestrian way along the road alignment. Laying the cable and digging new trenches and civil works will disturb and alter pedestrian way and will detour people from existing pedestrian way which may cause inconveniences and safety hazards to the public.

Extending the cables to houses, schools, businesses and offices from the main duct will also require the digging of new trenches and will pose safety risks to local communities from civil works including the use of construction tools and machineries.

The project is likely to require an international contractor and technical specialists for the duration of construction. There is potential for conflict in the form of physical violence and/or sexual harassment and assault between foreign workers and the local community and risks of communicable diseases (including, but not be limited to, COVID-19, STI's including HIV/AIDS, among other diseases). There is also risk of UXO discovery in the second phase works in Betio. Chance finds procedures are outlined in Section 7.3.

For the fiber roll-out, individual household and office safety will be ensured through BNL's in-house standard operating procedure (SOP) as further explained in Section 6.2.2.

6.2.2 Health and safety – workers

The construction of the project will involve health and safety risks to workers including local contractors or local skilled labor. The laying of the fiber cable civil works may be associated with manual handling of existing buried electrical wire connections and other safety hazards such as cut by sharp objects, hit by hard object, falling into trenches, hit by passing traffic, and risks related to trenching activities (including cave-in or trench collapse) and working at height (Kiritimati).

On the outer islands, the placement of the satellite unit including the installation of the poles to mount the dish can also pose the similar health and safety risks to workers e.g.;

- electrical hazards due to improper handling and maintenance
- structural hazards - can pose a risk to workers during installation and maintenance, and there is also a risk of collapse if the structures are not built to withstand the local weather conditions, such as high winds and storms
- chemical hazards due to improper handling
- environmental hazards – including improper disposal of electronic waste can create soil and water contamination and pollution affecting communities, and
- working at height for the sections of aerial reticulation on Kiritimati.

There is also risk of UXO at the second phase sites in Betio. Chance finds procedures are outlined in Section 7.3.

Additional risks associated with remote work in the outer islands and Kiritimati include;

- limited access to medical facilities due to the remote location of the islands;

- unpredictable and/or extreme weather conditions which can pose a risk to workers during installation and maintenance;
- limited infrastructure on remote islands means that workers may have limited access to local equipment and resources, such as safety gear, first aid supplies, and communication devices; and
- limited transportation to and from the islands can pose a risk in the event of an emergency.

To mitigate these risks, it is important to ensure that all installations are carried out by trained and qualified personnel who follow proper installation and maintenance procedures. The contractor will be required to develop specific hazard identification and health and safety risk avoidance and mitigation procedures in their health and safety plan (HSP) as part of their CESMP. The HSP will detail the policies, procedures, and measures to identify, evaluate, and control potential hazards, ultimately aiming to prevent accidents, injuries, and illnesses, and will cover the following:

- Risk assessment – process for identifying potential hazards in the workplace and evaluating the risks associated with them
- Management and control measures - implementing strategies to avoid/eliminate or mitigate identified risks, including engineering controls, administrative measures, and job/activity specific safety equipment and procedures (such as ropes and harnesses for working at height, buddy system for work in trenches etc) and personal protective equipment (PPE)
- Training and communication – plan for training and educating workers about potential hazards, safe work practices, and emergency procedures
- Emergency preparedness - developing and implementing plans for handling emergencies, including first aid, rescue, and evacuation procedures
- Incident reporting and investigation- establishing procedures for reporting and investigating accidents and incidents, including root cause analysis and corrective actions, and
- Monitoring and review - regularly reviewing the plan to ensure its effectiveness and making necessary updates based on lessons learned and changes in the workplace.

It is also important to ensure that workers are trained in emergency response procedures and have access to appropriate safety gear and first aid supplies. Workers should also have access to communication devices and transportation arrangements should be made in advance to ensure that emergency medical services can be accessed quickly as needed. Additionally, it is important to ensure regular inspections to identify and mitigate any potential hazards.

Regular inspections should also be conducted to identify any potential hazards and ensure that the activities during the construction stage, as well as subsequent use of installations, are in compliance with local regulations and safety standards.

The main contractor will be responsible to ensure the safety of the local contractors engaged in the construction. At the minimum, the contractor should prepare a Health and Safety Plan and to provide provisions of personal protection equipment (PPE). Further, a Labor Management Plan (LMP) shall be prepared by the contractor to ensure that the rights of workers paid are protected, the workplaces are safe, people's health is protected, the public is protected from harm from the workers, and project workers can complain using a 'Grievance Mechanism for Project Workers'.

For the fiber roll-out, within the BNL system (Figure 6.1), there is a job pre-start aspect and this is also geolocated and OHS elements are captured in this form. The process and form also includes identification of hazards and an emergency plan. A job cannot start without completion of this form. This is an established process which BNL has been implementing and will continue to implement for the project.

Figure 6.1: BNL job start-up procedure dashboard

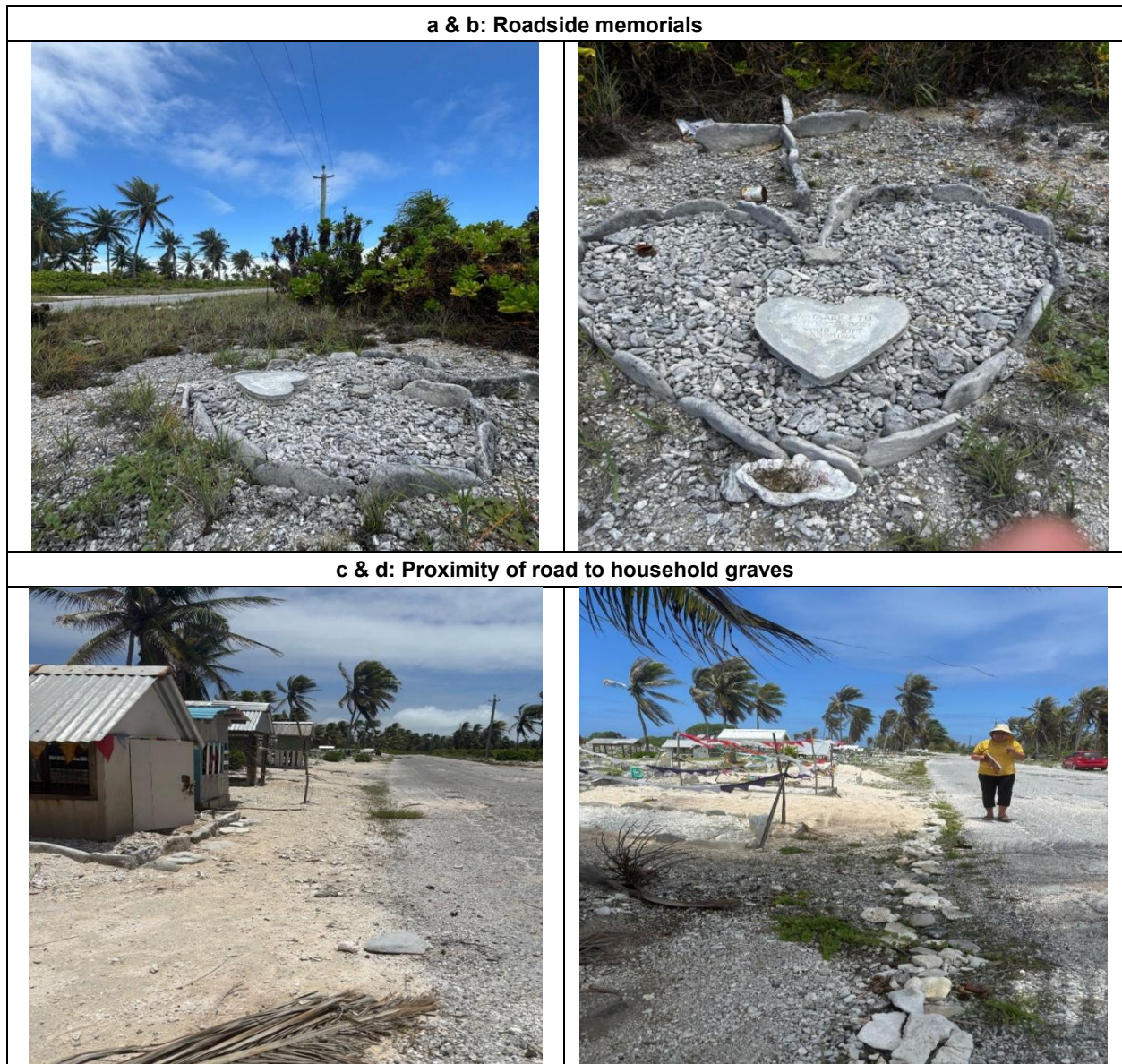
The screenshot shows the BNL job start-up procedure dashboard. The dashboard is titled "siteTRAX AIR" and displays a "Good Afternoon," greeting. It shows the user's profile as "Employee DUMMY COMPANY LIMITED" and their last login time as "14-Aug-2023, 12:52 PM". A message states "If this was not your last login, Register". The dashboard includes buttons for "Alerts", "Notices", "Download Jobs", and "Download Materials". On the right, there is a list of active jobs with a toggle for "GPS location tracking" set to "YES". The "Job Pre-Start" option is highlighted in yellow.

Source: BNL (2025)

6.2.3 Cultural heritage sites

There are no known cultural sites along the main road corridor and feeder roads where the cables will be laid, however, the project, including the contractor should pay attention to communal meeting halls or *Maneaba* as well as to household graves located close to the road corridor and any roadside memorials (Plates 6.1 a-d) .

Plates 6.1 a-d: Sensitive receptors for cultural heritage



Extending the fiber cable to private houses from the main duct may cross grave sites/yards or a single grave therefore, proper planning to avoid disturbing graves is important. Some sensitive receptors related to cultural heritage have been identified as shown in Plates 6.1 a-d.

The sites in Betio identified for inclusion in a potential second phase will need to be screened for cultural heritage risks. Consultations will need to be undertaken with the Tourism Authority of Kiribati (TAK) (who has mandate for protecting any World War II bunkers and related sites) along with the Ministry of Culture and Internal Affairs (MCIA) which has overall responsibility for heritage protection. If any cultural heritage risks are identified, BNL will need to undertake a process of assessing the risk, determining what can be done to avoid and/or mitigate the risk, and subsequently obtain clearances from the TAK and MCIA.

Although cultural heritage assets have not been identified for the current Starlink site or along the cable route, chance finds procedures are outlined in Section 7.3. The contractor will be required to develop a chance finds plan as part of their CESMP. The chance find plan will be based on the chance finds procedures set out in Section 7.3.

6.2.4 Disruption to traffic and road safety hazard

Most of the installation and construction activity will be carried along the main road corridor and feeder roads therefore, there will be traffic disruption and detour from the project civil works including the movement of project workers and construction machineries.

The disruption to traffic will result in possible traffic congestion and will pose potential road safety issues to road users and pedestrians.

The contractor will be required to prepare a traffic management plan as part of their CESMP.

6.2.5 Air quality and Dust

The operation of machinery, the movement of vehicles including exhaust emission and soil exposure on site has the potential to generate dust and hydrocarbon emission that can be a nuisance and discomfort to the people living nearby. The sensitive receptors are the people living near the main and feeder roads and trenching sites.

6.2.6 Damage to utilities

The Project civil works including the laying of fiber cable and trenching along the main and feeder roads corridor and to private houses may cause damage to existing utilities lines such as water and sewer pipes and electricity cables.

6.2.7 Local employment opportunities

The project will potentially bring positive impact to the community in terms employment opportunities. The opportunity for employment of locals in terms of skilled labor will be maximized during construction and will be monitored by the PIU. The opportunity for women to be employed in the Project will also be encouraged and monitored by the PIU.

6.3 Operations, Maintenance and Handover

6.3.1 Physical environment impacts

Waste management. During operations and maintenance, waste, including debris and general waste but also e-waste including fibre-optic cables, will be generated. MICT and BNL SOPs may need to be strengthened to ensure proper waste management and to avoid environmental hazards such as improper disposal of batteries and other electronic waste causing soil and water contamination. A waste management plan for operations stage will need to be developed and implemented. The plan will cover end of life disposal of e-waste.

Erosion control and run-off management. Maintenance activities may require re-trenching or minor excavations

Storage and laydown areas. The project can potentially alter the original landscape of lands or areas used or acquired as a storage and laydown areas for project and civil works materials, tools and machineries. Should there be any lands used or acquired for storage and laydown purposes, the project must carry out proper restoration/rehabilitation after construction to the sites by removing all the storage facilities and amenities and doing proper land scaping to bring the site back to its original stage.

6.3.2 Socio-economic impacts

Health and safety. Community and worker health, safety and well-being will need to be protected throughout the project cycle, include the operations and maintenance stage. BNL has SOP for worker (and household and office) health and safety as part of its job start up procedure. MICT may need to strengthen procedures to properly ensure the safety of workers and the community during maintenance activities, the PIU and KFSU can support this process.

Pedestrian access. The alteration to pedestrian access along the road alignment from the laying of fiber cable either through the main existing ducts and the new trenching is another potential negative impact of the project. Should this be the case, the project should fix including proper landscaping, leveling and compacting of altered or damaged pedestrian way along the main road corridor at the completion of each construction/cable laying stage.

Increased access to the internet. The Project is expected to bring positive impacts in terms of reducing the cost and increase the availability of Internet services in Kiribati. As a result, it will bring economic and social benefits to local communities and the population at large in terms of business and trade, health information, education, disaster alerts, to name a few.

Inappropriate internet use. Despite the Project positive benefits, it is also expected to have negative impacts on the community. This includes pornography, cyber bullying and abuse, time wasting, and distraction from education and family life.

7 Impact Mitigation and Management Measures

7.1 Environmental and Social Mitigation Measures

Table 7.1 and Table 7.2 summarizes the proposed environmental and social risks along with mitigation measures based on the impact assessment in Sections 5 and 6. The proposed mitigation measures cover the following stages of the project

- Planning, design and pre-construction
- Construction
- Operations and handover
- Emergency/incidents.

The tables also include monitoring requirements.

7.2 Emergency Response

The project can potentially involve, or experience, emergencies and incidents events or issues. The emergencies may be medical such as sickness (heart attack) or communicable diseases, natural disasters (tsunami, flooding, cyclone) or be related to the project such as injuries and accidents during construction activities involving project workers.

As part of their emergency response plan (ERP), included in their CESMP, the contractor will prepare and implement emergency response procedures and display them to workers on site. At a minimum the emergency response plan will include an evacuation plan, arrangements for onsite emergency phone contacts (police, fire, ambulance and civil defence), and requirements for first aid kits, fire extinguisher and heart defibrillator on site.

The ERP will include the identification of areas where accidents and emergency situations may occur, communities and individuals who may be impacted, response procedures, provision of equipment and resources, designation of responsibilities, communication, including that with potentially affected communities, and periodic training to ensure effective response. The emergency preparedness and response activities will be periodically reviewed and revised, as necessary, to reflect changing conditions.

7.3 Chance Finds Procedures

The chance finds procedures to be further developed into plans as part of their CESMP by the contractor cover cultural heritage and UXO.

Chance finds – cultural heritage. Cultural heritage encompasses tangible and intangible heritage which may be recognized and valued at a local, regional, national or global level. Tangible cultural heritage, which includes movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance.

Tangible cultural heritage may be located in urban or rural settings, and may be above or below land or under the water. Intangible cultural heritage, which includes practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artefacts and cultural spaces associated therewith—that communities and groups recognize as part of their cultural heritage, as transmitted from generation to generation and constantly recreated by them in response to their environment, their interaction with nature and their history.

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

Chance find procedures will be further developed by the contractor into a chance finds plan and included in their CESMP. The contractor is to confirm with TAK and MCIA that the procedures are suitable for protection of chance find cultural heritage in Kiribati. The cultural heritage chance finds procedures include, when a 'chance find' at a site is indicated:

- Stop the works, construction or land clearing activities in the area of the chance find

- Delineate/demarcate the area around the find or discovery and secure the site to prevent any damage or loss of removable objects
- Notify the supervising engineer who in turn will notify the responsible local authorities i.e TAK and MCIA, and the PIU
- In cases of removable antiquities or sensitive remains, a guard (day and night) will be present until the responsible local authorities i.e. TAK and MCIA determine the course of action and clear the works to resume
- The responsible authorities i.e. TAK and MCIA are responsible for protecting and preserving the site before deciding on subsequent appropriate procedures for handling the specific find
- Decisions on how to handle the find shall be taken by the responsible authorities i.e TAK and MCIA
- Implementation of activities concerning the management of the finding shall be communicated in writing by the relevant agency (TAK and MCIA), and
- Construction work will resume only after permission is given from the responsible local authorities i.e. TAK and MCIA concerning safeguarding 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. Any relevant findings will be submitted to the World Bank so it can assess the overall effectiveness of the project's cultural heritage mitigation, management, and activities. The contractor will develop a chance finds plan based on the above procedure, once verified with TAK and MCIA.

Chance finds – UXO. As noted in Section 5.2, the contractor will be required to nominate an EODE who will be responsible for disarming/defusing, transport and final placement of the UXO and have sole responsibility to declare site areas safe. The EODE will be subject to the CESMP, as approved by the PIU, and will prepare their own plan for the UXO identification and clearance activities. The contractor is also required to develop (in the pre-construction stage) and implement a chance finds procedure for UXOs as part of the CESMP. This will include induction, training, and refreshers for all workers, on the requirements of the chance finds procedure. The following procedure will be developed by the contractor into a plan::

- If the contractor, or a worker, becomes aware of a suspicious item that may be UXO, they must not touch or disturb it. The potential for injury is dramatically increased if UXO is disturbed
- If a suspected UXO is found – all personnel in the vicinity must stop work and move away, and must not do touch, disturb or tamper with the item in any way. This includes making any attempt to move it to a 'safe' location
- Carefully note the location and the appearance of the item. Take a photograph if it is possible without approaching or disturbing the item
- If possible, and safe to do so, mark the location so that it can be found later. Coloured tape or paint make easily recognised markers on land. Use GPS location if over water. Note the route to the item
- Inform the contractor, site foreperson or supervisor of the find who shall inform the KPS that a possible UXO item has been found. The police will instigate the procedures, and may need to request out of country assistance to attend and dispose of the item.

Table 7.1: Potential environmental impacts and associated mitigation measures

Potential environmental impacts	Mitigation measures	Monitoring	Responsibility / oversight
Planning, design and pre-construction			
Site selection and cable route/alignment	Site selection and cable routes to be determined through application of the mitigation hierarchy to avoid significant risk from unstable or flood-prone areas or risk to environmental receptors	Site selection assessments, final alignment plans	PIU/KFSU BNL
Sites incl. StarLink Gateway site, not cleared/approved for new use by BNL, CCK and MICT	- PIU to follow up and ensure lease obtain agreement signed by MELAD - PIU to advise MICT, CCK and BNL when the lease agreement has been signed and is effective	Lease agreement	PIU/KFSU Vodafone + BNL
Project not constructed in accordance with government or WB requirements or GIP	- Prior to construction and installation activities commencing, contractor to develop and submit to PIU their CESMP - PIU and KFSU to review and approve CESMP - Contractor to train workers in requirements of CESMP	CESMP development, submission, review and approval Records of worker training on CESMP requirements	Contractor PIU/KFSU
During minor excavation, trenching and site levelling works there is potential for discovery of UXO or impacts to underground utilities	- The installation contractor will coordinate and consult with utility and service providers to ensure minimum disruption to existing services - The installation contract will include provisions regarding engagement of a suitable specialist and adhering to accepted procedures in Kiribati as part of the specifications in the bid documents and contract - The contractor will develop and implement a UXO chance finds plan as part of their CESMP - The contractor will be required to nominate an explosive ordnance disposal expert (EODE). The EODE will have training and qualifications acceptable to the PIU and have experience with UXO identification, removal, haulage and disposal in the Pacific - The EODE will be responsible for surveying the site for UXO, disarming/defusing, transport and final placement of the UXO and have sole responsibility to declare site areas safe - The EODE will be subject to the CESMP, as approved by the PIU, and will prepare their own plan for the UXO identification and clearance activities	"As built drawings" for location of services and utilities UXO chance finds plan as part of CESMP EODE engagement by contractor EODE plan for UXO identification and clearance activities Prior to construction commencing	Contractor PIU/KFSU MISE, PUB

Potential environmental impacts	Mitigation measures	Monitoring	Responsibility / oversight
Construction			
Risks and impacts from materials sourcing (aggregates, sand etc)	• Use aggregates supplied only from licensed supplier i.e TACL • Include a materials sourcing plan in CESMP	CESMP implementation Site observations during inspections and audits	Contractor, KFSU, TACL
Emissions and dust will be generated from the project during the operation of machinery, digging of the trenches for laying of cable and the construction of manholes where area needs extension to the service	• Consult households adjacent to the working site • During dry seasons, the workers need to damp the ground to avoid dust release during the trenching and excavation work • Also, to cover the area with screening fence to protect dust emission to the nearby households • Limit working hours from 7am to 6pm (Mon – Sat) • Avoid working on Sundays • Spill kits to be available on site and during the work • Keep machinery well-maintained	CESMP implementation Grievance register Site observations during inspections and audits	Contractor PIU/KSFU
Noise generation from the work and by the project workers. Activities that will generate noise are the trenching and construction of manholes and from the transportation of construction materials	• Limit working hours from 7am to 6pm (Mon – Sat) • Avoid working on Sundays • Keep machinery well-maintained • If noisy activities are to take place in close proximity to sensitive receptors (houses, Maneaba, church, hospital etc) consider installing noise barriers	CESMP implementation Grievance register Site observations during inspections and audits	Contractor PIU/KSFU
Water and soil pollution can be caused from hydrocarbon / fuel spills during the operation (and refueling) and storage of the machineries. Other activities such as trenching can also affect groundwater wells. Pollution and/or contamination of groundwater wells through stockpile runoff and stormwater (incl. contaminated stormwater) runoff	• Stockpiles, erosion and sediment to be managed and controlled as per plan included in CESMP • Stockpile runoff and stormwater (incl. contaminated stormwater) runoff control and management as per plan included in CESMP • Spill kits to be available on site and during the work • Workers trained in proper deployment of spill kits • Refueling activity to use drip trays to avoid spillage to the ground • Covering of groundwater well during the excavation. • Proper disposal of collected hydrocarbon and fuel drips and contaminated rags	CESMP implementation Grievance register Site observations during inspections and audits	Contractor PIU/KSFU
Waste and debris contaminating land, soil or water	• The contractor to develop waste management plan (WMP) as part of their CESMP • PIU and KFSU to review and approve CESMP • The contractor to implement the WMP and monitor haulage and disposal of waste at the designated waste dumping areas only as approved in the WMP	CESMP implementation Monthly reports Grievance register Site observations during inspections and audits WMP implementation	Contractor PIU/KSFU

Potential environmental impacts	Mitigation measures	Monitoring	Responsibility / oversight
	- The contractor can take photos of waste prior to disposal at the designated sites and include these in their monthly reports - The WMP will include end of life disposal risks, particularly related to the copper cables that will be replaced		
Operation and handover			
Resources use and consumption	- BNL, CCK and MICT to implement their SOP and operate in accordance with sector plans which align with KV20 - Use renewable energy to provide power	SOP of BNL, MICT and CCK Until project completion	MELAD/KFSU BNL, MICT and CCK
Project waste and debris such as damaged machineries and tools, used oil and contaminated rags, left-over project materials and machinery, disturbed areas used during project (laydown areas/construction sites).	- Maintenance activities will also be undertaken in line with stockpile/trenching materials management and run-off control guidelines (based on those developed by the contractor) - Adjust WMP for use during operation as required - Proper disposal of waste generated during operations and maintenance waste as per the WMP and will address end of life disposal of optical fibers - WMP to include 3R+return concept, and Kiribati Waste Management and Resource Recovery Strategy 2020-2030 - Waste disposal as per the WMP. WMP to cover scrap metal and used oil disposal measures. - Proper handing over of left-over project materials and operational machineries (approved by MELAD). - Rehabilitation and landscaping of the site - The WMP will include end of life disposal risks, particularly related to the copper cables that will be replaced	SOP of BNL, MICT and CCK WMP Until project completion.	BNL, MICT and CCK MELAD
Emergency preparedness			
Project involvement in emergency and incidents events - from natural cause such as sickness (heart attack), natural disasters, fire and explosion and injuries from construction and accidents involving project workers.	- Contractor to develop emergency response plan as part of their CESMP - CESMP to be reviewed and approved by PIU and KFSU - Contractor to prepare emergency procedure and display it to workers on site and at the minimum to prepare evacuation plan, provide and make available onsite emergency phone contacts (Police, Fire, Ambulance), first aid kits, fire extinguisher and heart defibrillator.	CESMP implementation Before construction and until project is completed.	Contractor/KFSU

Table 7.2: Potential social impacts and associated mitigation measures

Potential social impacts	Mitigation measures	Monitoring	Responsibility/oversight
Planning, design and pre-construction			
Access to land portion along the road corridor to lay the fiber cable through the existing main duct and the digging of new trenches.	- The road corridor is already acquired by the government for the public main road and clear from private and public properties, it is expected that - No new land acquisition required - Land Use Agreement to document use of StarLink Gateway site by BNL, MICT and CCK for the project	Land Use Agreement	MICT/KFSU
Temporary use of land to allow trenching to extend the fiber cable to private homes, offices and schools from the main distribution	- Consult landowners on any trenching activity to be carried out on their lands and seek their approval. - Temporary use agreements with land owners specifying period of access required and confirmation that land will be rehabilitated to pre-project condition - Accessing private lands for new trenching activity will be also temporary. - Survey of graves and memorials along cable route to ensure that the design does not require digging of sensitive sites	Temporary use agreements with landowners Before construction/trenching	Contractor/MICT/KFSU
Loss of resources	- Use aggregates supplied only from licensed supplier i.e TACL - Include a materials sourcing plan in CESMP	CESMP implementation Site observations during inspections and audits	Contractor, KFSU, TACL
Land acquisition for project materials storage and laydown area	- Avoid using private owned lands but secure government land for project-related materials storage and laydown area - Should privately owned land to be used, the government and the landowner should enter into formal agreement on the use of the land and adequate compensation in accordance with national rules and guideline should be provided to the landowner	Before construction/trenching	MICT/KFSU
Project not constructed in accordance with government or WB requirements or GIP	- Prior to construction and installation activities commencing, contractor to develop and submit to PIU their CESMP - PIU and KFSU to review and approve CESMP - Contractor to train workers in requirements of CESMP	CESMP development, submission, review and approval Records of worker training on CESMP requirements	Contractor PIU/KFSU
During minor excavation, trenching and site levelling works there is potential for discovery of UXO	- The contractor will develop and implement UXO chance finds plan (CFP) based on procedure incl. in Section 7.3 as part of their CESMP - The installation contract will include provisions regarding engagement of a suitable specialist and adhering to accepted procedures in Kiribati as part of the specifications in the bid documents and contract.	CFP as part of CESMP EODE engagement by contractor EODE plan for UXO identification and clearance activities	Contractor PIU/KFSU

Potential social impacts	Mitigation measures	Monitoring	Responsibility/oversight
	- The contractor will be required to nominate an explosive ordnance disposal expert (EODE). The EODE will have training and qualifications acceptable to the PIU and have experience with UXO identification, removal, haulage and disposal in the Pacific - The EODE will be responsible for disarming/defusing, transport and final placement of the UXO and have sole responsibility to declare site areas safe - The EODE will be subject to the CESMP, as approved by the PIU, and will prepare their own plan for the UXO identification and clearance activities		
Damage to existing utilities lines such as water and sewer pipes, electricity wire and phone land-lines.	Contractor to consult with MISE, PUB and Vodafone before and during cable laying and trenching	Before construction/trenching	Contractor/KFSU
Construction			
Access to private property (households and offices) for connections and fiber roll-out	- BNL to arrange signing of installation consent forms with household head, business owner or office manager - Signed consent forms to be stored and managed	BNL SOP Installation consent forms	BNL, PIU, KFSI
Community safety risks including school children using pedestrian way along the main and feeder road alignment from civil works.	- Contractor to prepare and implement Health and Safety Plan (HSP) as part of their CESMP - BNL to implement SOP and job start-up process to track H&S hazards, emergency events - All working areas and trenches/excavations >1m deep to be securely barricaded to prevent accidental falls - Contractor to prepare and implement Traffic Management Plan (TMP) as part of their CESMP - PIU and KFSU to review and approve CESMP - Mitigation measures will be the responsibility of the contractor and as part of their safety management plan - The WMP will include end of life disposal risks, particularly related to the copper cables that will be replaced	BNL SOP CESMP implementation Grievance register Site observations during inspections and audits	Contractor/KFSU
Labor influx creates risk of physical violence and/or sexual exploitation, abuse or harassment (SEAH) and risks of spread of communicable diseases (including, but not be limited to, COVID-19, STI's including HIV/AIDS).	- Contractor to develop worker code of conduct (WCOC) and include in all contracts for workers to be engaged for the project. - WCOC to cover requirements for prevention and awareness of SEAH; fraternization with community members; cultural and social requirements and protocols for when working in villages; maintenance of a respectful workplace; and prevention of bullying, harassment or intimidation	HSP, LMP, WCOC and CESMP implementation Training records for workers Grievance register Site observations and consultations during inspections and audits Until construction is completed	Contractor/KFSU

Potential social impacts	Mitigation measures	Monitoring	Responsibility/oversight
	- Contractor to engage an approved services provider to develop and implement a communicable diseases and awareness plan - Contractor to prepare Labor Management Plan (LMP) to ensure that the rights of workers paid are protected, people's health is protected, the public is protected from harm from the workers, and project workers can complain using a 'Grievance Mechanism		
Health and safety risks to workers incl. local contractors or local skilled labor associated with manual handling of existing buried electrical wire connections and other safety hazards such as cut by sharp objects, hit by hard object, falling into trenches, hit by passing traffic, potential hazards from lasers (optical fiber communications technology)	- BNL and contractor to reference ANSI Z136.1 (standard for determining the hazard class for the type of laser proposed to be used in the communication system) - BNL to implement SOP and job start-up process to track H&S hazards, emergency events - Contractor to develop and implement UXO CFP - Contractor to prepare and implement HSP and CFP as part of their CESMP - HSP is to be based on activity, job and site specific assessment and include: - Risk assessment – process for identifying potential hazards in the workplace and evaluating the risks associated with them - Management and control measures - implementing strategies to avoid/eliminate or mitigate identified risks, including engineering controls, administrative measures, and job/activity specific safety and personal protective equipment (PPE) - Training and communication – plan for training and educating workers about potential hazards, safe work practices, and emergency procedures - Emergency preparedness - developing and implementing plans for handling emergencies, including first aid, rescue, and evacuation procedures - Incident reporting and investigation- establishing procedures for reporting and investigating accidents and incidents, including root cause analysis and corrective actions, and - Monitoring and review - regularly reviewing the plan to ensure its effectiveness and making necessary updates based on lessons learned and changes in the workplace. - Contractor to prepare and implement TMP as part of their CESMP - PIU and KFSU to review and approve CESMP	Application of GIP and standards for laser-related hazards BNL SOP HSP, WMP, TMP, LMP, and CFP as part of CESMP implementation Worker PPE in use OHS training records for workers Accident/incident register Grievance register Site observations during inspections and audits During construction period	Contractor/KFSU

Potential social impacts	Mitigation measures	Monitoring	Responsibility/oversight
	- Contractor will be responsible to ensure the safety of the local contractors engaged in the construction - Contractor to provide provisions of personal protection equipment (PPE) to all workers incl. local contractors or local skilled labor - LMP to be prepared and implemented by the contractor to ensure that the rights of workers paid are protected, the workplaces are safe. - Regular meetings, training and toolbox talks with workers on safety aspect topics - The WMP will include H&S issues related to end of life disposal risks, particularly related to the copper cables that will be replaced		
Traffic disruption and detour from the project civil works including the movement of project workers and construction machineries along the main and feeder road corridor	- Contractor to prepare and implement TMP as part of their CESMP - PIU and KFSU to review and approve CESMP - The TMP will include requirements for contractor to appoint someone to direct and manage the movement of vehicles, to erect and use appropriate traffic safety signs, barricades and stop/go flaggers among other measures.	HSP, TMP, LMP and CESMP implementation Worker PPE in use Accident/incident register Site observations during inspections and audits During construction period	Contractor/KFSU
Potential chance finds of cultural heritage resources, sites, artefacts	- Contractor to confirm with TAK and MCIA that chance finds procedure (Section 7.3) is suitable for protection of cultural heritage chance finds and to develop it into a plan - Contractor to develop chance finds plan (CFP) as part of their CESMP - PIU and KFSU to review and approve CESMP - The contractor will implement the CFP and ensure that all project workers are inducted and trained in the procedures	CFP as part of CESMP implementation During construction period	Contractor/KFSU MCIA, TAK
Disturbance to culturally sensitive places and properties in particular <i>Te Maneaba</i> , churches and grave yards during the cable laying civil works.	- Contractor to consult community as per the SEP to identify where and when pay village/community meetings held at Maneabas to ensure that the project civil works are not disturbing or create noise. - Limit working hours from 7am to 6pm (Mon – Sat) - Avoid working on Sundays - Keep machinery well-maintained - If noisy activities are to take place in close proximity to sensitive receptors (houses, Maneaba, church, hospital etc) consider installing noise barriers	SEP and CESMP implementation Grievance register During construction period	Contractor/KFSU

Potential social impacts	Mitigation measures	Monitoring	Responsibility/oversight
Nuisance and discomfort to the people from operation of machinery, the movement of vehicles including exhaust emission and soil exposure on site has the potential to generate dust and hydrocarbon emission	- All working areas and trenches/excavations >1m deep to be securely barricaded to prevent accidental falls - Significant noise-generating activities should be carried out in the least sensitive time periods throughout the day as determined in consultation with the neighbors - Use of new and well-maintained vehicles and machineries, - Exposed soil or ground should be regularly wetted, vehicles carrying soil or sand should be covered, and aggregate stockpiles should be covered or wetted regularly to suppress dust emission.	Implementation of TMP, HSP and CESMP Grievances During construction period	Contractor/KFSU
Operation and handover			
Inappropriate and harmful internet use - pornography, cyber bullying and abuse, time wasting, and distraction from education and family life.	- Mitigation measures include public awareness and potentially filtering of internet content. - Public awareness programs be continued and extended into other avenues, such as schools, and civil society including women's and youth group. - Public awareness campaigns to include understanding of ability to apply filters to internet use, particularly targeted at families, schools and women's groups. Internet filters can be used to block inappropriate and harmful use of internet	SEP implementation Throughout project implementation and when project is operational	MICT/BNL/KFSU
Alteration to original landscape of lands or areas used or acquired as a storage and laydown areas.	- Remove all equipment from the site, subject to the future use of the site, and the site to be rehabilitated and stabilized to a condition suitable for the next land use - Unused materials will be sent for recycling and if recycling is not possible, dispose of at local landfills	After the project is completed	MICT/BNL/KFSU
Alteration and destruction to pedestrian access from the laying of fiber cable.	Rehabilitate and stabilize altered and disturbed pedestrian access-ways	After the project is completed	MICT/BNL/KFSU
Health and safety related to maintenance activities	The WMP will include H&S issues related to end of life disposal risks, particularly related to the copper cables that will be replaced	WMP and HSP implementation Throughout project implementation and when project is operational	MICT/BNL/KFSU
Emergency preparedness			
Project involvement in emergency and incidents events - from natural cause such as sickness (heart attack), natural disasters, fire and explosion and injuries from construction accidents involving project workers.	Contractor to prepare emergency procedure and display it to workers on site and at the minimum to prepare evacuation plan, provide and make available onsite emergency phone contacts (police, fire, ambulance and civil defense), first aid kits, fire extinguisher and heart defibrillator.	ERP and CESMP implementation Before construction and until project is completed.	Contractor/KFSU

8 Stakeholder Engagement and Grievance Redress

8.1 Stakeholder Engagement Plan

The SEP seeks to define a technically and culturally appropriate approach to consultation and disclosure. The goal of this SEP is to improve and facilitate decision making and create an atmosphere of understanding that actively involves project-affected people and other stakeholders in a timely manner. It aims to ensure that these groups are provided sufficient opportunity to voice their opinions and concerns that may influence decisions made on the Project. The SEP is also a useful tool for managing communications between the implementing agencies; MICT, CCK and BNL. The project SEP is provided in Annex 1.

8.2 Grievance Redress Mechanism

The project grievance redress mechanism (GRM) will seek to resolve complaints and take action on relevant feedback in a timely, effective, and efficient manner that satisfies all parties involved. It will provide a transparent and credible process for fair, effective, and lasting outcomes. It will also aim to build trust and cooperation as an integral part of the broader community engagement.

A detailed process for the GRM is presented in Annex 3. The MICT and PIU will establish and implement detailed GRM procedures and update the GRM as necessary throughout project implementation.

The GRM will be coordinated by the KFSU Safeguards with support from the E&S Focal Points associated with/as relevant to the Project, who would be working under the supervision of the Project Manager.

9 Implementation

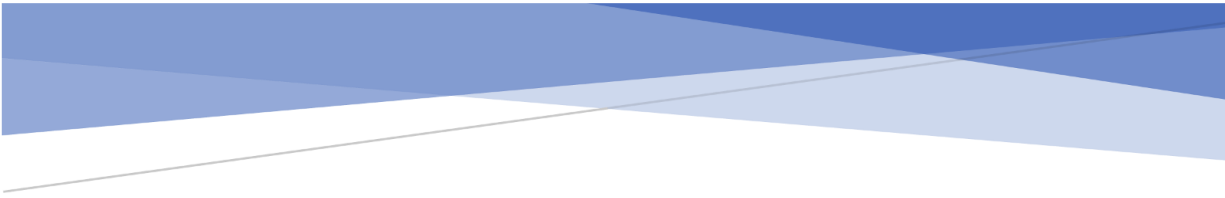
Regular monitoring and evaluation of the effectiveness of the mitigation measures will take place, and any necessary adjustments will be made to ensure that the project is meeting its environmental and social objectives.

The PIU, on behalf of MFED and the implementing agencies, is responsible for ensuring the project's safeguards requirements of the project are met, for all aspects of E&S risk management, the PIU will be supported by the KFSU Safeguards.

The KFSU Safeguards currently consists of two national Safeguards Officers and one International E&S Safeguards Specialist. The KFSU will provide oversight to the PIU review of the CESMP and provide comments for it to be strengthened or advise the PIU that the contractor can be informed that the CESMP has been approved and works and activities can commence.

During implementation, the KFSU Safeguards will carry out a regular environmental monitoring and auditing to ensure that the Project, including the contractor(s) activities, comply and adhere to the provisions of the safeguard instruments for the project including this ESMP and the construction ESMP developed and implemented by the contractor, and other management plans.

Tables 7.1 and 7.2 (as part of Section 7) include the monitoring requirements and set out the indicators to be monitored, monitoring frequency, and party responsibilities for each phase of the project implementation.



Annexes

[Annex 1: Stakeholder Engagement Plan](#)

[Annex 2: BNL Installation Consent Form](#)

[Annex 3: Grievance Redress Mechanism](#)

REPUBLIC OF KIRIBATI

Stakeholder Engagement Plan

KIRIBATI CONNECTIVITY PROJECT

February 2023

1 Introduction

This document presents a Stakeholder Engagement Plan (SEP), which will be implemented by the Ministry of Information Communication and Transport (MICT), Communications Commission of Kiribati (CCK) and BwebwerikiNET Limited (BNL) for the Kiribati Connectivity Project (KCP). The MICT will implement the project in South Tarawa. As per the restructuring, the KCP includes a number of components:

Component 1: Digital Connectivity Infrastructure. This component will support the development of climate and disaster resilient national digital connectivity infrastructure and it consists of the following;

- (i) Interim satellite capacity to expand the availability of broadband connectivity and lower internet access costs on Tarawa; and scale up satellite capacity to expand the availability of broadband connectivity to reduce the divide between Internet users in main centers and users in remote areas.
- (ii) The constructing and installing terrestrial fiber optic access networks and related infrastructure to connect users in Tarawa to the global internet.
- (iii) Regional Internet (IP) Transit Capacity to purchase Internet IP transit capacity on Guam to provide access to international connectivity services. This component will be implemented by BNL in collaboration with FSM.

Component 2: Enabling Environment for Digital Connectivity Infrastructure and Services. This component will strengthen and improve the digital connectivity infrastructures and services and it consists of: (a): technical assistance and institutional capacity building to BNL to strengthen its capacity as the owner and operator of core digital connectivity infrastructure for Kiribati, which includes support for the preparation of consortium arrangements with FSM; design and procurement of regional satellite contract(s) for Kiribati and FSM; procurement of regional IP transit capacity; arrangements for wholesale supply of internet capacity to downstream users; and the preparation and implementation of the fiber infrastructure to connect users in Kiribati to the global internet; and (b): technical assistance and institutional capacity building for the CCK to strengthen the legal and regulatory enabling environment; harmonize market rules in Kiribati and FSM; and lower regulatory barriers to promote private sector investment across the North Pacific region. This subcomponent will strengthen the capacity of the CCK to fulfil its responsibilities and mandate under the Communications Act, as well as such other responsibilities that may be conferred on it from time to time, including licensing, interconnection, wholesale access, spectrum issues, quality of service monitoring and enforcement, technical regulation, and leadership and advocacy issues in the long-term interests of users; and, (c): technical assistance and institutional capacity building for the MICT to develop and strengthen the policy, legal and regulatory frameworks supporting digital connectivity and closing the digital divide and to promote competition, encourage new private sector led investment.

This subcomponent will also support activities to increase broadband access and use on a gender informed basis and ensure that more people, particularly the most vulnerable, are included and able to access digital connectivity services. This will include policy development, research, monitoring and evaluation, citizen engagement, and outreach activities relating to digital literacy and digital skills.

Component 3: Project Management and Implementation Support. This component will support the PMU on management and implementation of the Project for all implementing agencies, including financing of training and operating costs. The PMU will be responsible for overall Project management, administration and coordination, including procurement, financial management, audit, monitoring and evaluation, communications and safeguards.

Implementing agencies. As per the restructuring, the project will be jointly implemented by the MICT, BNL and the CCK. The responsible MICT technical division and the Project Implementation Unit (PIU) is the Digital Transformation Office (DTO) responsible for the overall administration and management of the project, the unit will manage key functions including planning, coordination and monitoring throughout the project implementation period.

The PIU, as with several other World Bank-financed projects in Kiribati, will be supported by KFSU. The KFSU will provide Financial Management, Procurement, Environmental and Social, and Monitoring & Evaluation (M&E) oversight to the Project. Environmental and social specialists are housed in this unit and are responsible for general oversight of E&S issues for the KCP (as well as for other projects such as KOITIIP, PROP, etc.).

2 Project Potential Benefits and Risks

The impacts of the KCP will be the social and economic benefits to the community from the increased access to internet services. The potential benefits include the following;

- More robust and resilient communications infrastructure can strengthen future disaster preparedness. More broadly, ICT tools can support governments as they plan and monitor climate change and natural disaster risks to which the region is particularly vulnerable.
- The Project is expected to have a positive impact on women's access to affordable Internet services in Kiribati. This is important because access to affordable, high-speed Internet is associated with economic and social empowerment, by increasing users' access to services such as employment and education opportunities and health information.

- Lower communications costs reduce overall business transaction costs. Communications infrastructure facilitates domestic and cross-border transactions, opens new marketing and distribution channels, and improves access to information about markets, prices, and consumers; it is particularly significant for tourism development.
- Communications infrastructure facilitates access to information on market prices, weather, agricultural extension services, and e-commerce platforms.
- ICT facilitates entrepreneurship—including specific opportunities for women. Telecommunications infrastructure also facilitates the extension of mobile phone and/or Internet-enabled financial services.
- In the health sector, reliable, affordable broadband can facilitate, inter alia, remote diagnostics and laboratory testing, remote consultations with specialists, and access to international medical networks and resources. In the education sector, access to high-speed Internet provides teaching and learning materials, and skills enhancement opportunities, among other benefits.
- Faster, cheaper, and more reliable connectivity improves communications and information management between government agencies. Governments can be better-positioned to deploy online services, permitting increased transparency and accountability of government and improvements in service delivery.

However, on the other hand, the KCP can pose potential social risks such as;

- the risks of exclusion or inequity for digital services;
- cybersecurity concerns; and cyber-bullying,
- addiction and exposure to illicit material.

potential risks relating to unequal access based on gender, age, ability, income and remoteness.

The SEP will provide a platform that provides stakeholders including affected persons with an opportunity to influence project design and operation so that it is inclusive and provide equal opportunity to all regardless of gender, age and ability. The SEP will also provide the avenue and mechanism for the public to raise grievances including complaints and feedback regarding the Project's design and operation.

The SEP will also provide regular outreach and awareness programs to the public and in particular the vulnerable people on the Project's potential social risks identified above and to provide lessons that will help address and manage the risks. Potential social impacts from improved access require long term commitments from the industry through the SEP to manage, include anti-social online behaviour (scamming, bullying, addictions, etc.).

3 Public Engagement During Project Conceptualization

Stakeholder meetings and a public consultation exercise were held during the site visit conducted between 24th and 29th October 2016 (Table A1.1). The sense of public need for the project, seen as a potential improvement of the existing Internet and communication services, was overwhelming. Strong support from both the government and non-government entities was evident. Kiribati has a large contingent of its population overseas, and communication is an important part of their daily lives.

There was a perception that the fibre cable will bring with it an accessible and affordable service. The concerns about the social impact of this project were a subject matter of discussions, which differed between different age groups and gender. Women and children were seen as the most vulnerable people to the negative impact of the new cable. Overall, the need for public awareness and information assistance, from the government for example, was apparent.

Table A1.1: People consulted during project conceptualization

25 October 2016		
Amalgamated Telecommunication Holding Kiribati	Kamleshwar Sharma CEO	• ATH supports the concept • ATH wants to contribute to the process • Happy to provide any technical information, but need a written request
	Arobati Teamako A/Manager Earth Station	• This is a new technology to us
Ocean Link		• Difficult to access and compete with ATHK • Need to have the cable accessible to private operators • Difficulty in interconnection between two operators • Keen to see who is going to manage the cable • Operator of the cable must be independent of the current operators (fair competition)
Women Development	Bairee. Beniamina. Officer in Charge	• Communication is vital for women; especially with families within Tarawa, and with those overseas. • Issue now is the "bad image" being downloaded and shared by kids. • Children's' time being spent on phones, laptops, tablets is an issue with their schoolwork. Imagine if the fibre cable will allow faster Internet.
		• We are aware that teachers have found pornographic materials in student's phones. • Some students pretend to do school work but they spend school time on their phones or Internet. • Better communication will allow us to share information with communities, especially community development information. • We need to manage this new technology through some kind of program for the public.
NGOs	Uriam. Robati. Senior NGO Officer	• We have almost 300 NGOs registered with us; and there is more being set up and seeking help on how to incorporate their NGO. • Main concern is that we need more public information on this type of new technology. • Our people should be aware and have some understanding. • There have been some issues with the current project being implemented by McDowell: some people vandalise it because there were no consultation, awareness, and information for the local people (community). • Appreciate that you start by informing us. I hope that the public awareness and information will continue on so that local people, especially those who are less fortunate, to know and understand this new project.
Social Welfare	Tabotabo. Auatabu. Principal Social Welfare Officer	• We are aware that Internet has some negative influence on people. • The most vulnerable in this type of development is our children. They access to a fast technology, with little guidance. Be mindful, that some parents have less knowledge of this Internet technology. That make it difficult for them and the kids. • There is a need for more consultation, so that people are fully aware of this new technology. They will need help to manage the risks that this will bring to their homes. We will liaise with the Ministry of Communication on this important issue. • There is a need to have some kind of protection for our kids. Either, educating the parents or have some program, like parent lock, so that parents can manage the Internet usage in their homes. • Adults, also need some protection with this new Internet technology.

26 October 2016		
MOEL	Uataake Terite Technical Office Barnabas Iotiabata IT Technician	- Internet only service - Concerns with cable management and operator (independent) - Good timing for us to review our satellite contract - Will build in the cable into our next business plan - We would like to be involved in the planning with Government
27 October 2016		
Public Consultation - Nanikai Community	Attended by approximately 50 people from local community of Nanikai (see Appendix 4)	- Will cable affect fish? - How is cable brought ashore? - Will other islands in Kiribati benefit? - Will cable be visible? - What will the cost of Internet access be? - How will access to offensive websites be managed? - Will local labour used in cable installation Project?
28 October 2016		
EcoCare	Dr Kameri Onorio	- Provided explanation of Project - Several other EIAs have been completed in Kiribati
Environment and Conservation Division	Taoues Reiher (Director) Victoria Hnanguie (Officer)	- Provided explanation of Project - EIA might not be needed which is a requirement for license to install & operate.
KAP (Kiribati Adaptation Programme)	Etrily Menikaoti	- Provided explanation of Project - To provide island profile
KANGO	Tereao Teingiia (President)	- Provided explanation of Project - KANGO managers all recognized small NGOs in Kiribati
Ministry of Public Works	Meeting with key engineers	- Provided explanation of Project - Programme of seawall works not proactive, its reactive - There is duct in the roadside but they don't know whether the cable could be placed in it.
29 October 2016		
Ahmadiyya Muslim Community Tarawa	Imam Khawaja Fahad Ahmad	- Long overdue for Kiribati to have a reliable Internet - Current Internet is expensive - Communicating with our headquarter is vital - We provide basic education service for local people, and we need good Internet - Better Internet will allow us to expand our community education service

4 Consultations on Project Documents

Consultations on project E&S documents was held virtually on May 25 2022. Those consulted were the MICT and the KFSU Safeguards team. As part of the consultation, the project background and an Environment and Social Impact Assessment (ESIA) reports were introduced and discussed. Suggestions for the ESIA to be updated was made during that meeting.

Another consultation and discussion with industry stakeholders namely the CCK and BwebwerikiNET Limited was held during WB support mission to Kiribati from November 7-10 2022. During the consultation, the fiber-to-the-premises (FTTP) initiative including its network and routing was introduced.

The need to address expensive and unreliable internet access are among of specific concerns raised from the above consultations.

5 Project Stakeholders Identification and Analysis

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

5.1 Affected Parties

Affected Parties comprise persons, groups, and other entities within the project area of influence that are directly influenced (actually or potentially) by the project and/or have been identified as most susceptible to change associated with the project, and who need to be closely engaged in identifying impacts and their significance, as well as in decision-making on mitigation and management measures. As parties directly affected by the project, these parties will have ongoing and frequent engagement with the project during all phases of implementation to enable effective information gathering, feedback and timely corrective measures, awareness raising, and user satisfaction, trust and reliability. Affected parties may include;

- Internet service providers (Vodafone Kiribati Limited, Oceanlink, TeniCom, Taotin trading)
- State-owned internet and regulatory entities (CCK, BwebwerikiNET Limited)
- Government ministries
- State-owned enterprises
- Schools
- Local communities
- Businesses with international links

Other stakeholders. Other interested parties include individuals, groups and other entities that may not experience direct impacts from the project but who consider or perceive their interests as being affected by the project and/or who could affect the project and its implementation in some way. These parties will be kept regularly informed of the project's progress and milestones. Other interested parties may include:

- Local governments and island councils
- Small Local businesses
- Church groups
- Development partners
- NGOs and civil society organizations

Vulnerable groups. The project identifies vulnerable groups as any persons or groups who may be disproportionately impacted or further disadvantaged by the project due to their vulnerable status, and who may require special engagement efforts to ensure their equal representation in project consultation and decision-making processes. Vulnerable groups will be engaged on a regular basis to pre-empt disproportionate negative impacts associated with the project. The vulnerable groups may include;

- Children and minors
- Women
- People with special needs
- LGBTQ community/transgender people

6 Stakeholder Engagement Program

There are a variety of engagement techniques used to build relationships with stakeholders, gather information from stakeholders, consult with stakeholders, and disseminate project information to stakeholders. When selecting an appropriate consultation technique, culturally appropriate consultation methods, and the purpose for engaging with a stakeholder group should be considered. The technique mostly used in Kiribati are listed in Table A1.2.

Table A1.2: Communication techniques used in Kiribati

Engagement technique	Appropriate application of the technique
Correspondences (Phone, Emails)	Disseminate information to all project stakeholders with email and phone access.
One-on-one meetings or key informant interviews	Seeking views and opinions Enable stakeholder to speak freely about sensitive issues Build personal relationships Record meetings
Formal meetings and workshops	Present the Project information to a group of stakeholders Allow group to comment – opinions and views Build impersonal relation with high level stakeholders Disseminate technical information Record discussions
Public meetings (Church groups, local communities)	Present project information to a large group of stakeholders, especially communities at their local Maneaba Allow the group to provide their views and opinions Build relationship with the communities, especially those impacted Distribute non-technical information Facilitate meetings with presentations, power-point, posters etc. Record discussions, comments, questions.

Engagement technique	Appropriate application of the technique
Focused group meetings (Women, People with special needs, LGBTQ group)	Present Project information to a group of stakeholders Allow stakeholders to provide their views on targeted baseline information Build relationships with communities Record responses
Project website and social media	Present project information and progress updates Disclose safeguards and other relevant project documents
Direct communication with affected land/asset owners	Share information on time-frame of project activity
Road signage	Share information on project activities Safety and hazard warning
Project booklet/pamphlet	Brief project information
Mass Media (radio and local newspaper)	Share information on project activities Notice of safeguards documents public disclosure and display locations.

Stakeholder engagement in South Tarawa will rely on a variety of methods as identified above. Other methods will include but are not limited to the dissemination of project information through social media: including MICT website and Facebook page, social media, and mass media via public service announcements through radio, and printed materials that can be distributed at the local level. Public information materials aimed at the general population will need to be translated to I-Kiribati. Where possible and appropriate, create dedicated online platforms and chatgroups appropriate for the purpose, based on the type and category of stakeholders.

Stakeholder engagement will comprise consultations with stakeholders throughout the entire project cycle to inform them of the project and to solicit their concerns, feedback and complaints about any activities related to the project and consultations to improve project design and implementation (Table A1.3). Stakeholders will be kept informed as the project develops, including reporting on project environmental and social performance and implementation of the SEP and the GM.

Table A1.3: Guide for stakeholder engagement program

Stakeholder	Topic of engagement/ Information to disclose	Engagement mode	Project phase	Frequency
Affected parties				
Internet Service Providers	- Project information - Cost and benefit on providers - Seek views and opinions	One-on one meetings/key informant interviews Formal meeting	All phases	Throughout
State-owned internet and regulatory entities	- Project information - Cost and benefit on providers - Seek views and opinions	One-on one meetings/key informant interviews Formal meeting	All phases	Throughout

Stakeholder	Topic of engagement/ Information to disclose	Engagement mode	Project phase	Frequency
Government ministries	- Project information - E&S consideration - Grievance Mechanism - Cost and benefits	Formal workshop/ key informant interviews	All phases	Throughout
State-owned enterprises	- Project information - Cost and benefits	Formal workshop/focus groups	All phases.	Throughout
Schools (primary, secondary, tertiary, special schools) Children and minors	- Internet positive and negative impacts - Inappropriate and Harmful Internet Use and mitigation measures	Scheduled School visits Mass media (scheduled radio program and local papers)	All phases	Throughout
Local communities	- Project information and updates - E&S risk consideration - Grievance mechanism - Internet positive and negative impacts	Customer survey/focus groups Formal workshop (through KCCI) GRM	All phases	Throughout
Businesses with international links	- Project information - Cost and benefit on business community - Seek views and opinions - Grievance mechanism	Formal workshop (through KCCI)	All phases	Throughout
Interested parties				
Local Government (island councils)	- Project information and updates - Costs and benefits	Emails Pamphlets Website and social media	Pre-construction Construction	1 time
Small Local businesses	- Project information - Cost and benefit on business community - Seek views and opinions - Grievance mechanism	Formal workshop (through KCCI)	All phases	Throughout
Church groups and civil society organizations	- Project information and updates - E&S risk consideration	Scheduled public meetings (visiting selected church and community maneaba)	Pre-construction Construction	2 rounds (1 during pre-construction, 1 during construction)

Stakeholder	Topic of engagement/ Information to disclose	Engagement mode	Project phase	Frequency
	- Grievance mechanism - Internet positive and negative impacts - Inappropriate and harmful internet use and mitigation measures	Pamphlets Radio program Local newspaper	Operation	Throughout (for radio and local newspaper)
Development partners	- Project information and updates - E&S risk consideration	Project reporting and mission formal meetings	Throughout	Throughout
Vulnerable people				
People with special needs	- Project information and updates - E&S risk consideration - Inappropriate and harmful internet use and mitigation measures - Grievance Redress Mechanism	Focused groups (workshop, meeting) Scheduled radio program	Pre-construction	Throughout
Women			Operation	
LGBTQ community				

7 Grievance Redress Mechanism

The project GRM will seek to resolve complaints/feedback and grievances in a timely, effective, and efficient manner that satisfies all parties and stakeholders involved. It will provide a transparent and credible process for fair, effective, and lasting outcomes. It will also build trust and cooperation as an integral component of broader community consultation that facilitates corrective actions. An elaborated and detailed stand-alone GRM, which complements and share the objectives of this SEP, is included in Annex 3.

8 Process Documentation

The SEP will be revised and updated as necessary during project implementation by the MICT with support from KFSU Safeguards to ensure that the information presented is consistent and reflects the evolving nature of information required at different stages of the project, and that the identified methods of engagement remain appropriate and effective in relation to the project context and specific phases of the development. Any major changes to project related activities or schedule will be reflected in the SEP.

Quarterly summaries and internal reports on public grievances, enquiries, and related incidents, together with the status of implementation of associated corrective/preventative actions, will be collated by the designated GM officer, and referred to the Project Manager. Quarterly summaries will provide a mechanism for assessing both the number and the nature of complaints and requests for information, along with the project's ability to address those in a timely and effective manner.

9 Budget

The main costs of implementing this SEP are related to formal meetings, workshops community consultation, awareness materials and radio program (Table A1.4). Many of the costs are integrated in the Project budget lines for project phases to achieve its objectives while some would be met or integrated into MICT recurrent budget.

Table A1.4: Estimated Budget for SEP Implementation

Stakeholder	Engagement mode	Project phase	Frequency	Estimate Budget (AUD)	Source
Affected parties					
Internet Service Providers	Regular One-on one meeting	All phases	Throughout	\$600 per meeting (Refreshments)	KCP
	Regular formal meeting				
State-owned internet and regulatory entities	Regular one-on one meeting	All phases	Throughout	\$600 per meeting (Refreshments)	KCP

Stakeholder	Engagement mode	Project phase	Frequency	Estimate Budget (AUD)	Source
	Regular formal meeting				
Government ministries	Regular formal workshop	All phases	Throughout	\$2,000 per workshop (venue, teas and lunch)	KCP
State-owned enterprises	Regular formal workshop	All phases	Throughout	\$1,500 per workshop (venue, teas and lunch)	KCP
Schools (primary, secondary, tertiary, special schools) Children and minors	Scheduled School visits Mass media (scheduled radio program and local papers)	All phases	Throughout	\$4,000 (quarterly radio program and local paper issue)	KCP MICT (radio program)
Businesses with international links	Regular formal workshop (through KCCI)	All phases	Throughout	\$2,500 per workshop (venue, teas and lunch)	KCP
Interested parties					
Local Government (island councils)	Emails Pamphlets Website and social media	Pre-construction Construction	1 time		
Small Local businesses	Formal workshop (through KCCI)	Preparatory stage Pre-construction	1 time	\$2,500 (teas and lunch)	KCP
Local communities/ Church groups	Scheduled public meetings (visiting selected church and community maneaba) Pamphlets Radio program	Pre-construction Construction Operation	2 rounds (1 during pre-construction, 1 during construction) Throughout (for radio and local newspaper)	\$400 (\$20 mweaka X 20 maneabas) \$1,000 (pamphlets)	KCP MICT

Stakeholder	Engagement mode	Project phase	Frequency	Estimate Budget (AUD)	Source
	Local newspaper				
Development partners	Formal meeting	Pre-construction	1 time	\$300 (refreshment)	KCP
Vulnerable people					
People with special needs	Focused sessions (workshop, meeting)	Pre-construction	1 time (pre-construction)	\$3,000 (workshops)	KCP
Women					MICT
LGBTQ community	Scheduled radio program	Operation			

Annex 2: BNL Broadband Installation Consent Form

Ultra-Fast Broadband Installation Consent



Delivering fibre to enable ultra-fast broadband in your property

Your telecommunications service provider has asked us to install fibre network equipment at your place so you can get connected to ultra-fast broadband. Before we start, we would like to confirm that you understand the work required to install fibre to your property and the terms on which we will carry out the work.

Your Name:	
Address (for this property where installation works will happen)	
If you are not the person who ordered the service (the customer), please confirm you are authorised to represent the customer	Signature:

We will carry out the work in accordance with our End User Terms (see over page). These terms apply between you and us for as long as, and whenever, any of our equipment is located on property you own, occupy or have control over. In particular: if our network is damaged on your property, you may be liable for the cost of any repairs; and we may access your property in the future for the purpose of maintaining our grid.

About your installation

Below is a summary of the work that we have agreed to carry out to install fibre and network equipment to your property. We will need you to sign below to confirm you agree to these activities and any other work and activities that may be reasonably associated with this kind of work.

Inside your dwelling

Location of our Fibre network Equipment (ONT)		
Location of your service provider modem		
Drilling small holes	Surface mounted installation of outlets and network equipment	
Cutting holes in wall	Integration of existing property wiring	
Exposed surface mounted cabling	Removal of ceiling tiles	
Access to ceiling and underfloor cavities		

Outside your dwelling

Aerial Cable	Reuse existing pipe	
Surface mounted cable or pipe	New buried cable or pipe	
Removal of concrete / tiling / pavement	Removal of existing copper cable to house	
Digging of holes	Clean up (we will leave the property in a clean and tidy state on completion. This does not include reinstatement for hard surfaces to guarantee colour, finish or age match)	
Other		

I confirm that:

- I have seen, read and understood this information and the End User Terms and accept those terms; and
- If I am not the owner of the property, I have obtained the consent of the owner for the installation works; and
- I understand that there may be an impact on the operation of burglar and medical alarms, particularly monitored alarms. [Note: check with your alarm provider or telecommunications service provider]

Your Signature	Our authorised technician signature
Name:	Name:
Signature:	Signature:
Date:	Date:



Annex 3: Grievance Redress Mechanism

KIRIBATI CONNECTIVITY PROJECT (P159632) PUBLIC GRIEVANCE REDRESS MECHANISM

A. Project Summary and Environmental and Social Risks

1. The World Bank (WB), through the International Development Association (IDA), is providing grant financing for that improved access for Kiribati under this Project (“Kiribati Connectivity Project”, P159632). Government of Kiribati (GOK) requested a restructuring of the project to reallocate the funding for the EMC system to other priority digital development activities. These priorities will:
 - a) finance additional satellite capacity for Tarawa to help ameliorate the impact of the delays associated with connecting Tarawa to the EMC system;
 - b) rollout terrestrial fiber optic access, networks and related infrastructure to connect users in Kiribati to the global internet; and
 - c) deliver additional international satellite bandwidth for other remote communities to reduce the digital divide
2. The project is subject to safeguard policies, OP 4.01 (Environmental Assessment), 4.11 and (Physical Cultural Resources). The project Environmental and Social Impact Assessment (ESIA) prepared during project preparation was revised to an environmental and social management plan (ESMP) (this document) to reflect the project’s restructuring. Even with the restructuring, the potential residual environment and social risks continue to be rated low.
3. The activities under Component 1 will fund local infrastructure on Tarawa (same as the original project location), and involves minor construction works such as shallow digging, trenching mainly on footpaths and along existing road alignment for laying the fiber cable network. The exact alignment of the fiber cable is yet to be finalized; however, all works will be located within the existing road right-of-way on previously cleared land. The potential minor and manageable environmental and social risks include:

- a) Occupational Health and Safety (OHS) for workers installing satellite dishes and towers (6-10m) high;
 - b) OHS risks associated with shallow digging and encountering unknown cables and services; and
 - c) the disposal of small amount of high-density polyethylene (HDPE) offcuts and electronic waste.
- 4. No additional civil works will be financed on areas other than where GoK has land tenure and access rights.
- 5. The increased scope of technical assistance under Component 2 may result in moderate direct, indirect, and downstream social risks. The risks include exclusion or inequity for digital services; cybersecurity concerns; and cyber-bullying, addiction and exposure to illicit material. There are also potential risks relating to unequal access based on gender, age, ability, income and remoteness.
- 6. All these risks will be managed through the ESMP and as part of stakeholder engagement activities and the Grievance Redress Mechanism (GRM). The following elaborates on the GRM, and placeholders for key information is highlighted.

B. Goal of the Grievance Redress Mechanism

- 7. Forming part of the project operation as per defined in the Project Operations Manual (POM), this GRM is to provide affected people with avenues for making a complaint or resolving any dispute that may arise during the course of the implementation of the Connectivity Project and to ensure that appropriate and mutually acceptable redress actions are identified and implemented to the satisfaction of complainants.
- 8. The Connectivity Project GRM allows members of the public to submit complaints or feedback regarding the way the activities of the projects are being conducted and how the activities affect them. Complaints may relate, for example, to excessive noise, damage to plants or property, pollution concerns, workers behaviour, harassment, quality of the works or other concerns.
- 9. The establishment of this GRM aims to avoid the need to resort to judicial proceedings that may incur cost on the complainants. However, it is also a policy of the Project to respect the choice of the complainants to use any avenue or mechanism they trust and are comfortable with. This may include existing legal system within the GOK including the Office of Peoples' Lawyer (OPL).
- 10. This GRM serves as a platform to receive, register, review, and resolve grievances and address feedback from the public in the most efficient, effective, transparent and timely

manner during the implementation of the Connectivity Project. It is also a mechanism to inform the GOK through the Project Implementation Unit (PIU) of the Ministry of Information Communication and Transport (MICT) of design and implementation risks and impacts that can be used to improve the project.

C. Grievance Handling Procedure

11. A complaint/feedback can be lodged through the following channels shown in Table A3.1.

Table A3.1: Complaint and grievance access channels

Medium	Description
a. Frontline SMS.	Smartphone short messaging services will be used as a complaints/feedback system to facilitate the lodging of grievances. This SMS system will immediately advise the project team of the content of the complaint/feedback. The SMS numbers are 73005757 & 73033116
b. Emails.	Complaints/feedback can be sent to the following email addresses, meere.karotu@mict.gov.ki and bkaoti@mfed.gov.ki
c. Telephone.	Complaints/feedback can be made through the telephone to the designated officer who will immediately record the complaints/feedback in the <i>GRM Register</i> as an acknowledgement of receipt of the complaint/feedback and to provide the complainant with a number allocated to that particular complaint/feedback. The Complaint Number will be the reference used by all parties to follow through on each grievance/feedback. The telephone numbers to report grievances/feedback are 73005757 and 73033116.
d. Social media	Online project website, Facebook and other social media platforms (to be established)
e. Drop-box/letter	A dedicated drop-box for written complaints/feedback will be at the project office and specified locations for ready and easy access for the public. The boxes will be secure and will allow for anonymous complaints/feedback to be received. At any intake source, a person may exercise/request anonymity, and further, the case processing will be treated with the highest confidence with disclosure of personal information (e.g., name and address) only by consent of the individual or party.
f. In-person.	Complainants can approach any personnel of the Project or its contractors to convey their complaints/feedback. They can also visit the PIU office and lodge their complaint/feedback in person. An "Entry" in the GRM Register will be completed immediately to provide the complainant with a Complaint Number for appropriate actions and follow-up purposes.

D. The GRM STEPS

12. The Kiribati Fiduciary Services Unit (KFSU) Safeguards (KFSUS) is responsible to manage the GRM for the project and ensure that all complaints received are resolved and addressed at all levels. The GRM steps are as follows:

Level 1

- i. A member of the public (the complainant) starts the process through submission of a complaint (grievance)/feedback. All complaints, whether by SMS, email, telephone through hotline, social media, drop-box/letter, or in-person will be received and handled by the KFSUS.
- ii. The KFSUS will register the details of the complaint/feedback in the GRM Register (see Annex 3.1) and provide timely communication to the complainant that the complaint/feedback has been received with a case number.
- iii. The KFSU in close coordination with the Project Manager (PM), community leaders, and concerned agencies will review the complaint/feedback to ensure that the issue raised is relevant to the project. If not relevant to the project, the KFSUS will communicate to the complainant the reason for ineligibility.
- iv. The type of complaint/feedback will be classified as: A - queries, comments, and suggestions; B - allegation of violation of rights, unjust and inequitable decisions/benefit sharing, or non-performance/poor performance of obligations against consultants, contractors, or another dispute; C - allegation of fraud or corruption.
- v. If the complaint/feedback is not relevant to the project, the KFSUS will communicate to the complainant the reason the matter cannot be address in the GM.
- vi. The KFSUS' **acknowledgment, assessment and communication** are to be sent to the complainant via a return SMS, email, phone call or in **writing within two (2) working days**. Acknowledgement cannot me made on anonymous filings if contact information is not provided.
- vii. The KFSUS, the PM and the contractor will investigate, attend meetings, address the complaint/feedback and provide an expedient and effective means of resolution/action. Resolution of complaints should be completed **within fifteen (15) working days**. Investigation of grievances/feedback may involve site visits and consultation with relevant parties (complainant, contractor, and others as relevant). If necessary, the KFSUS will convene a meeting(s) with the relevant parties, e.g., the contractor, MICT, and relevant government ministries such as MELAD (for environmental and land issues), the MEHR (for OHS issues), MWYSSA (for social welfare issues), and others who may have specific responsibility related to the complaint/feedback.
- viii. The KFSU and the PM fulfil a secretariat role in the meeting(s), and the KFSUS will coordinate, take meeting minutes, and monitor the execution of the grievances

- investigation(s), and actions taken. Further investigations may be required based on the meeting(s) outcome(s).
- ix. Actions to resolve the complaint/feedback will then be taken. After the investigation and action, the KFSU will follow-up with the complainant regarding the actions taken to resolve his/her complaint and to ascertain their satisfaction upon resolution of the complaint has been made.
 - x. If the complainant is satisfied, the case is considered closed and the KFSU will update the GRM register including details of the grievance/feedback, steps taken and the close out date. If the complainant is not satisfied, the complaint is then referred to Level 2.

Level 2

- xi. If the complainant is still dissatisfied with the action(s) or attempts at resolution made at Level 1, the KFSU in close coordination with the PM will escalate the matter with the Implementing agency's focal point (Secretary or designate), the WB/Project Task Team Leader (TTL), MFED (Secretary or designate), and the Office of the Attorney General (OAG) for a resolution to be made but without formal legal proceedings. The KFSU and the PM will continue their secretariat roles for meetings at this level. Resolution of complaints/feedback should be completed **within thirty (30) working days**.

Other. If still unresolved, the complainant may opt for judicial/legal proceedings. Meaning, in the event where all avenues have been exhausted within the GRM and Grievance Redress Service (GRS) system of the WB, and that the complaint remains unresolved without further actions to take, the complaint will be declared closed and referred to the Office of the People's Lawyer (OPL) and that the complainant will be encouraged to take necessary steps for formal legal proceedings in accordance with Kiribati laws and procedures.

E. The GRM Structure

- 13. The GRM stakeholder structure comprises of two levels of investigations and meetings involving the following parties as relevant and commensurate with the complexity of the case, as set out in Table A3.2.

Table A3.2:

Level	Member(s)
1	KFSU Safeguards (KFSUS) Project Manager Project/sub-project contractor MICT Representative Relevant associated ministries (e.g., MELAD, MWYSSA, MEHR, MIA)
2	<i>In addition to the above members ...</i> Implementing agency focal point (Secretary or designate) World Bank/Project Task Team Leader (TTL) OAG (without formal legal proceedings) MFED (Secretary or designate)

F. Using the GRM to Improve Operations

14. The GRM shall provide an important quality control function for the Connectivity Project to continually improve its operations and implementation through engaged community and the public and best practice in resolving the complaints.
15. The Communications Strategy including Frontline SMS, Hotline and Help Desk will also assist in providing regular feedback from stakeholders to the project/MICT.

G. Monitoring and Evaluation System

16. The Monitoring and Evaluation System will ensure the efficient functioning of the GRM through implementation of monitoring framework and involvement of monitoring committee/members.
17. This system will also provide the opportunity for Connectivity Project Team to further improve the whole process for enhanced results in terms of expeditious remedy of complaints and overall efficiency of the Grievance Handling procedures.
18. A selected monitoring committee comprised of the KFSUS and PM and/or others from Level 1 and 2 parties (only if required) will provide the following roles:
 - a. To conduct ongoing reviews of trends/biases emerging;
 - b. To monitor complaints so as to ensure complaints are recorded/registered and addressed in a timely manner and that the complainants are satisfied; and
 - c. Review number of grievances resolved and analysis of patterns and trends of longitudinal data.
19. The GRM monitoring framework noted in Table A3.3, serves to monitor, track and help evaluate the efficiency and effectiveness of the GRM. Table A3.4 provides a glossary of terms for the GRM monitoring framework.

Table A3.3 – GRM Monitoring Framework

No.	Nature of the Complaint/Feedback (C/F)	Type of C/F	Medium (with date)	Impact Location	Geo-Reference (GPS)	Name of Complainant	Address	Remarks/Progress (including level of complainant satisfaction)	Levels/stages				Status	
									Level 1	Level 2	Other (Legal proceedings)	Closed	Ongoing	Pending

Table A3.4: Glossary of terms

Term	Description or meaning
# of Complaints/ Feedback	Number of Complaints/Feedback received and registered with a case number in the GRM Register.
Nature of complaint	Nature of complaint shall refer to how the complaint is framed and shall fall within the scope of GRM system relating to project activities posing environmental and social threats and risks due to lack of compliance by the contractor. The complaint nature shall fall within levels/stages of procedures and steps taken for any resolution and that may warrant decision to solve and close the case, close to be referred to next level and/or close without required actions as nature of complaint falls outside jurisdiction of GRM system.
Type of complaint	Type of complaint shall refer to difference categories as A. queries, comments and suggestions, B. allegation of violation of rights and inequitable decisions/benefit sharing, or non-performance/poor C. allegation of fraud or corruption. However, the complaint(s) shall be reported as either an environmental or social concern needing redress by the project through GRM system. These may include; complaints against ground water pollution, noise and dust, oil spill, damage to property, workers behavior, harassment, quality of works, social safety issues and others alike that are evidence based.
Efficiency & Effectiveness	Efficiency and Effectiveness shall refer to how the system works in terms of handling and solving the grievances and same time managing the flow of complaints received, registered and managed for resolution. As GRM system entails it shall provide the mechanism to prosper and promote project efficiency and effectiveness through team building with community and key stakeholders ensuring grievances are mitigated to lowest possible effect. Given community issues/grievances may be sensitive the GRM system shall provide avenue to bridge and harmonize complaints effectively and timely response.
Impact location	Impact location shall refer to the point/locality at which the cause of impact takes place and may vary depending on the project site and type of project to be implemented. It may include the geo-referenced point of the site, surrounding area, type of community existing, type of vulnerable groups, type of office(s), youth and society, type of traffic movement and others alike. Where complaints are anonymous, the complaint/impact location becomes very important.
Grievance Status	Grievance status shall refer to levels (1&2) and stages at which the grievances are received, recorded and resolved with defined procedures and steps taken for resolution with activation of decision whether or not the grievance may be resolved at the higher level for resolution.
Level 2	Level 3 shall refer to actions taken by highest level of proceedings within GRM system involving WB, Office of Attorney General (OAG) and Ministry of Justice (MOJ) but without formal legal proceedings.
Others	Others shall refer to formal legal proceedings when all avenues within the GRM and GRS system of WB had been exhausted and that the complaint remains unresolved without further actions to take.
Closed	This shall refer to the case declared closed as being resolved by GRM system or closed without further actions required as nature of case falls outside jurisdiction of GRM to resolve.

Term	Description or meaning
Pending	This shall refer to the outstanding cases as they are under investigation requiring further information from relevant institutions or relevant stakeholders, require further consultations with complaints or evidence-based information and / or require referral to outside institution for legal proceedings.
Ongoing	This shall refer to progressing cases under review by panel engaged at any level of GRM system yet to be resolved. The cases may change status depending on complexity of nature of complaint that would determine higher levels of handling.
Medium	Medium shall refer to type of device used through which grievances may be received, recorded and registered for resolution as part of GRM system.
Address	Address shall refer to either physical address or contacts of the complainant to facilitate flow of information to and from complainant and vice-versa.

H. Performance Indicators

20. The performance indicators highlighting the success of the GRM will be assessed based on the following:

- **Participation** - percentage of complaints/feedback resolved in GRM. Target: 100% of complaints/feedback addressed and resolved through the GRM and not referred to legal system of the Kiribati for resolution (validated by date of resolution);
- **Effectiveness** - percentage of complaints/feedback lodged that received effective and timely response as measured by date of receipt and date of resolution (- the average number of days to resolution once in the GM will also be noted). Target: 100% of complaints/feedback channelled through the GRM meeting the procedural time deadlines (validated by total days of each case vs established GRM Day timelines)
- **Resolution** – percentage of complaints/feedback resolved to complainant satisfaction. Target: 70% of complaints/feedback resolved through the GRM (validated by date of case resolved);
- **Recurrence Reduction** – number of recurrent complaints/feedbacks received (i.e., recurring complaints/feedback for the same issue and location) per year. Target: reduce the number of complaints/feedback of each type by 50% through better management and timely implementation of corrective actions (validated by number of repeated complaints/feedback and type of corrective measures); and
- **Influence** – number of policy, procedure or performance/conduct changes in project related stakeholders

Annex A3.1: GRM REGISTER FORM

Case No.						
Date received			Receiver			
COMPLAINANT DETAILS						
Name						
☐ Anonymous						
Phone No			Email			
Address						
COMPLAINT/FEEDBACK (C/F)						
Mode	☐ Phone	☐ Email	☐ SMS	☐ Letter	☐ Social media	☐ In-person
C/F Type	☐ A	☐ B	☐ C			
C/F Details						
RELEVANCY ASSESSMENT						
Relevant	☐ Yes ☐ No		Reason			
ACTION						
Investigation & Findings						
Action Required						
Action Carried out						
Complainant Satisfaction	☐ Yes ☐ No			Date		
Comments						
Closed/ Pending			Closed/Pending by (name/signature)			
DISCLOSURE (Name of Complainant)						
☐ Non-confidential ☐ Confidential Complainant Signature:						